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ABSTRACT

These guidelines, drawn from a number of sources, are designed to present in summary and outline form the multiple aspects of establishing and operating educational programs for health occupations which require less than a baccalaureate degree. To assure usefulness to lay persons, educators, practitioners, and others concerned with health occupations, these guidelines review all aspects broadly, are brief enough to assure extensive use, and provide a base and direction for further study. The first chapters describe how the health industry and health workers are influenced by mounting social forces and advancing technology; the growth, needs, and changes in the health field; and the importance of considering each facet of the complex system for the delivery of health services. Subsequent chapters concern (1) the collaborative roles of involved groups, (2) resources and how to identify and develop them, (3) federal-state-local relationships, and (4) an outline of a comprehensive elementary to post-high school level program. Listings of planning and funding resources, agencies and organizations, information dissemination sources, and annotated references are appended. (Author/SB)

JANUARY 1971

GUIDELINES FOR HEALTH OCCUPATIONS EDUCATION PROGRAMS

COLLEGE OF EDUCATION
DEPARTMENT OF VOCATIONAL–TECHNICAL EDUCATION
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

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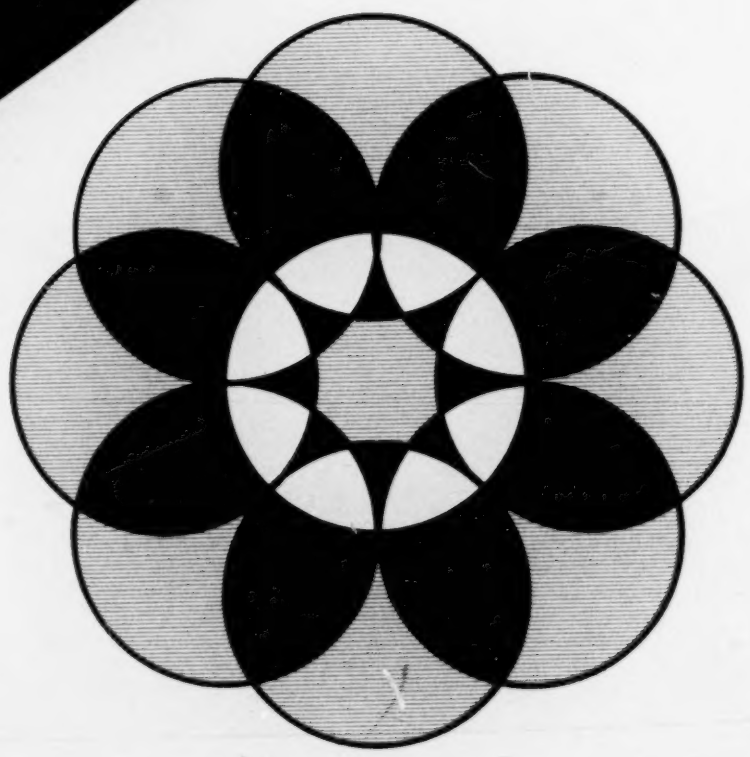

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GUIDELINES FOR HEALTH OCCUPATIONS EDUCATION PROGRAMS

ED056218

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PREFACE

The U.S. Office of Education, Bureau of Adult, Vocational and Technical Education, Division of Vocational and Technical Education in 1969 awarded a series of dual-purpose contracts to assist in the further development of this field. Each contract focused on one specified aspect of vocational and technical education and made provisions for conducting a national conference on, and developing a set of **Guidelines** for, activities in the specified area.

Accordingly, one of these contracts resulted in: (1) the National Conference for Health Occupations Education held in New Orleans on February 4-6, 1970; and (2) these **Guidelines**, to which Conference participants and others having expertise in health occupations education have contributed.

Copies of these **Guidelines** and those resulting from the other contracts are available from the USOE, Division of Vocational and Technical Education; titles of those available are listed in Appendix D. Users of these **Guidelines** may find copies of other USOE guidelines of particular value since each has developed one or more topics more extensively than dealt with herein.

The purpose of the National Conference for Health Occupations Education was to assemble leaders in the health and related fields, governmental agencies, and educational programs in order to: (1) provide an exchange for developing and improving relationships, and (2) to further enhance coordination and planning in response to the growing need for health services and workers. By means of position papers, reactions and discussion groups, the Conference focused on topics of concern for all locations, educational levels, and health specialties. Through the exploration of problems and proposed solutions related to planning and conducting health occupations education programs, these leaders from various interests and locations identified how they could encourage and stimulate program development in their own areas. These **Guidelines**, therefore, draw from a number of resources.

The purpose of the **Guidelines** is to abet planning and cooperation among health and related associations, health facilities, educational programs, and governmental agencies at the state, regional and local levels where activities can and must be coordinately initiated and implemented. The guiding statements, recommendations, and suggested procedures should assist local, regional and state personnel as they design programs and promote correlated action to meet health occupations education needs and problems. The Appendices provide supplemental references and resources information.

Recognition is given to Miss Helen K. Powers, Program Officer; Michael Russo, Chief, Planning and Evaluation Branch; and Edwin L. Rumpf, Chief, Development Branch, of the Division of Vocational and Technical Education, USOE, for their assistance in conducting the Conference and the development of these **Guidelines**.

Appreciation is expressed to Carol Gibson, Katherine Loomis, Elizabeth E. Kerr and others who assisted with the development of the manuscript and reviewed preliminary drafts; and to Rose Watts, Sandra Zander, Rebecca Rzonca, Mary Jo Jenkins and Judi Freeman for the efforts they expended with both the Conference and the **Guidelines**.

Robert M. Tomlinson, Project Director
Lois M. Langdon, Assistant Director
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SCOPE OF THE GUIDELINES

The focus of these **Guidelines** is on educational programs for those health occupations which typically require less-than-baccalaureate degree preparation, and which comprise approximately 85% of all personnel employed in the health industry. Most of these persons may be prepared in programs which are a part of the public educational system.

The federal-state-local partnership for vocational education has provided leadership and resources for health occupations education at the secondary and post-secondary, but less-than-baccalaureate, levels. The Vocational Education Amendments of 1968 provide new and expanded opportunities for this field. The **Guidelines** are designed to acquaint those concerned with education, particularly vocational and technical education, with the health industry and with their opportunties in developing educational programs which will make positive contributions to their students.

Occupations in the health field, health occupations, range from that of an aide or assistant to that of a primary, autonomous professional. Nation wide, there are demands for both pre- and in-service programs in health occupations education, including retraining and upgrading. Therefore, programs to prepare personnel must be offered at all levels of education, ranging from short-term, on-the-job training to graduate level preparation.

In designing educational programs for a field that is both service and technically oriented, in which legislation and licensure are integral parts, and where learning activities frequently take place in the actual work setting, it is increasingly imperative that needs be assessed, action coordinated, and outcomes evaluated. The existing diffusion of training, the inappropriate utilization of personnel, and a proliferation of health occupations titles and nomenclature, call for increased coordination and cooperation among the professions, voluntary agencies, religious and educational institutions, health facilities, organized labor, government, business and industry, and concerned citizens. If an effective health care delivery system is to be achieved, the resources and experiences of each of these very powerful forces must be applied and their efforts be expended in concert.

The first chapters of the **Guidelines** describe how the health industry and health workers are influenced by mounting social forces and advancing technology; the growth, needs, and changes in the health field; and the importance of considering each facet of the complex system for the delivery of health services. Subsequent chapters stress the collaborative roles of involved groups and give suggestions for developing a strong, consistent and coordinated approach to the preparation and utilization of health workers.

Resources are essential to the effectiveness and efficiency of any system. Chapters IV and V identify resources specific to health occupations education; e.g. manpower, monies and educational programs. Means of identifying, developing and utilizing these resources are presented.

An understanding of governmental structure and agencies concerned with health occupations education will enhance program planning at the local level. Chapter VI describes the federal-state-local relationships and identifies legislation applicable to this field of education.

The final two chapters deal with actions which may be taken by state and local educational units to develop comprehensive health occupations education programs. An outline of a comprehensive program, from the elementary level to the post-high school level, is presented.

These **Guidelines** are designed to present, in summary and outline form, the multiple aspects of establishing and operating programs. It is intended to complement other publications and resources which develop, in greater detail, one or more aspects included here.

A need has been expressed for a document that could be utilized by lay persons, educators, practitioners and others concerned with health occupations. Such a document should: (1) broadly review all aspects of the field, (2) be sufficiently brief to gain extensive use, and (3) provide a base and direction for further study and development in the field. Hopefully, these **Guidelines**, plus the references in the Appendices, will lead to meaningful, innovative action in the further development of health occupations education. The ultimate goal is quality health services for all individuals and communities.

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CHAPTER I
HEALTH CARE AND HEALTH PERSONNEL IN A TIME OF DYNAMIC CHANGE

Guiding Statements:

1. **The nation has accepted the principle that quality health services should be available to all individuals and communities.**
2. **Social changes and technological advancements have resulted in unprecedented need to adjust the health care delivery system to more effectively provide preventive, therapeutic, convalescent and custodial services.**
3. **To accommodate and facilitate the needed changes in the health care delivery system, expansion and flexibility in the preparation of health workers is imperative.**

Our nation's health care delivery system has already undergone unprecedented growth and changes in recent years; yet, rapid and dynamic social changes and technological advancements continue to challenge the capability of the present system to meet emerging needs. Traditional patterns of providing health services and preparing health workers are no longer adequate; in the past, each individual has sought medical and health services from practitioners on a fee-for-service basis. New roles and relationships have not as yet emerged but must be developed if quality health services are to be available to all individuals and communities.

It has been estimated by health officials that adequate health care is available for only approximately 25% of the population; for approximately 50%, the care is described as "passable." Factors contributing to major problems of the health care system are: (1) disparities in the quality of care within, and among, states, cities and rural areas; (2) rapid and dynamic changes in health specialties; (3) social and economic changes; (4) increased demand and interest of the citizenry; (5) shifting bases for preparation of health occupations personnel; and (6) multiple agency involvement in funding and approving educational programs. To assure adequate health care, a sustained effort in planning and implementation for health care services and preparation of personnel to staff the system are required.

THE FORCES OF SOCIAL CHANGE

With the increase in the nation's population due to lengthened life span, lowered infant mortality, control and elimination of disease, and expanded public health education, medical and health care are approaching new dimensions and frontiers. Today, needs in the health field include preventive, convalescent, therapeutic and custodial services to provide comprehensive health care. In addition, the growth in affluence of society has placed a premium on individual and community health.

Dramatic advances in the health sciences have been concomitant with major social changes. The results of these changes have given rise to a service-oriented society that is requiring more and better-prepared personnel who are able to cope with technological progress and rapid skill obsolescence.

Comprehensive Care

The explosion of scientific and medical knowledge has contributed to the growing recognition of the many aspects of individual needs related to health and illness. In part, this explosion has resulted in need for a wide array of health workers who jointly undertake responsibility for health care. It is now common for a team of up to ten members to deliver care to one person; moreover, predictions are that this number will increase to thirty persons in a relatively short time. With this "team approach," the tasks of all health care personnel — primary professional, allied, technical, and skilled — will have to be defined, and redefined, commensurate both with changing needs and with developing specialties.

Demographic Changes

The dimensions of health care will continue to be affected by population change in both urban and rural areas and by accompanying modification in communications, transportation and physical mobility. Studies show that large numbers of professionally prepared persons do not practice in the geographic area in which they obtained their preparation. Licensure, standards and qualifications will need to be reviewed and, as necessary, adjusted to be compatible with mobility and needs. Also, population changes may require

emphasis on different specialties, depending upon the health problems peculiar to the given setting.

Consumer Need

No change is more reflective of the role of the public in decision-making than is the consumer interest in health services. Interest is two-fold: (1) in practitioner-patient relationships, and (2) in the formation of broad public policies. The report of the National Advisory Commission on Health Manpower states: "Every individual, as a consumer of health services, has a large stake in the quality and availability of health care." Journalists are expressing harsh criticisms of the inadequacy and the high costs of health care. It has been estimated that health insurance payments cover only about 35% of all costs for direct health care.

The Changing Nature Of Health Facilities and Educational Programs

In providing responsible health care one dimension affecting both health facilities and educational programs is the continuing search for balance between level of preparation and performance of functions. The design and organization of health facilities — accommodations for differing degrees of illness, cluster arrangements of facilities for extended care, community and neighborhood clinics, and home care — demand innovative considerations regarding types and levels of prepared personnel needed in a given setting. Modifications in established preparatory programs are underway with the inclusion of additional areas of study and specialized training. Postgraduate study, continuing education, and in-service training have become essential. Programs and curricula must be designed to facilitate occupational preparation, mobility and the upgrading of the worker.

Optimal preparation and appropriate utilization of workers, sufficient in types and number to provide quality care, will require coordinated planning and an interdisciplinary approach if emerging health care needs are to be met.

Transfer of Preparational Programs

Until recent years, in an attempt to meet their own needs, health service institutions, whose primary function is to provide health care, have assumed the responsibility and expense for the preparation of a majority of health workers. The costs of educational programs in service institutions were ultimately borne by patients, often by those least able to pay.

Only in the past decade has there been a substantial shift in the administrative responsibility for programs in health occupations education — from health service institutions to public educational institutions. This shift embraces the present philosophy that the cost of educating health workers should be charged to the public tax base rather than to patients. The shift requires new alliances between the health service and public education institutions. Therefore, the public education system must also have adequate resources not only to operate the preparation programs but also to emphasize teacher education for the preparation of faculty to teach in those programs where both technical skills and teaching competencies are required.

The public is increasingly concerned with the total investment in education for the health occupations and in its subsequent return in the availability of competent practitioners and quality services.

Public support of education for the health occupations increases consumer interest; consequently, the public is becoming increasingly involved in the total process of decision-making that surrounds the allocation of resources with respect to need. As never before, educational institutions are having to prove their effectiveness in providing occupational preparation and opportunities for various segments of the population. To achieve these ends, more concerted attention must be given to designing curricula in relation to expected performance, making careful analysis of priorities of public need, and using new approaches to recruitment and utilization of personnel.

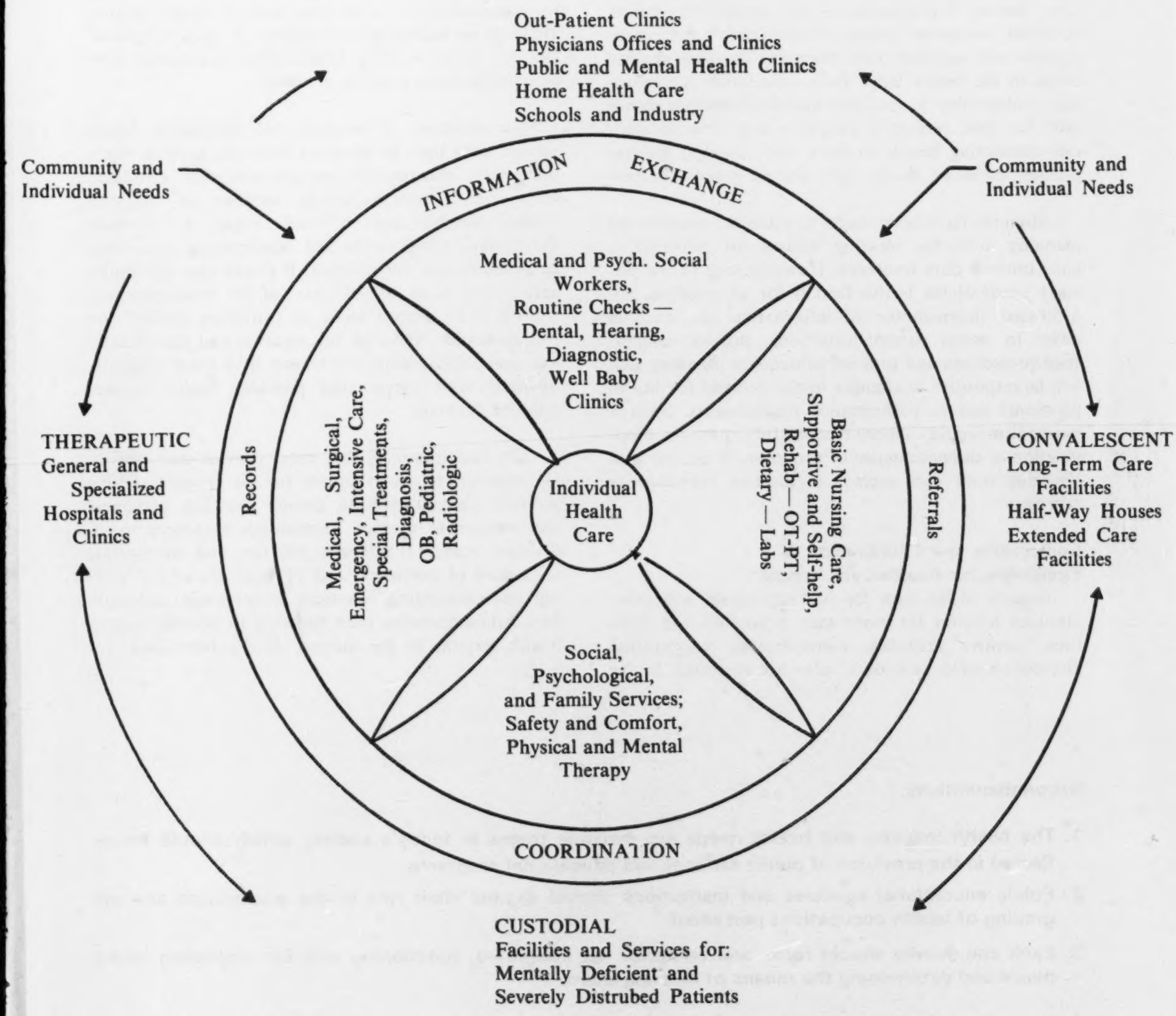
Private and proprietary institutions and programs currently prepare a large number of health workers and are necessary to provide an adequate supply of qualified health personnel. In addition, all health service institutions must maintain and improve their in-service and continuing education programs for employees. Thus, there will be a continuing need for cooperative relationships among public and private groups providing both educational programs and health services. Collaborations should include the sharing of faculty, facilities and other resources.

MULTIPLE AGENCY INVOLVEMENT

Public and private agencies at all jurisdictional levels are involved in the many phases of health occupations education and utilization of graduates. On the national level alone, 23 different agencies are involved in some aspect of the preparation of health personnel. Concern of the agencies includes funding, operating and regulating educational programs. It is not surprising that differing standards, approaches and interests of various federal, state and private agencies often result in difficulties for local groups who are attempting to identify sources of assistance to meet local program needs.

For example, funds presently are provided by: (1) the USOE, federal vocational education acts, through State departments of vocational education; (2) the U.S. Public Health Service, directly to institutions or

Figure 1
Components and Coordination of Community Resources
For Quality Health Care for Individuals


Out-Patient Clinics
Physicians Offices and Clinics
Public and Mental Health Clinics
Home Health Care
Schools and Industry
Community and Individual Needs
Community and Individual Needs
INFORMATION EXCHANGE
Medical and Psych. Social Workers, Routine Checks — Dental, Hearing, Diagnostic, Well Baby Clinics
Medical, Surgical, Emergency, Intensive Care, Special Treatments, Diagnosis, OB, Pediatric, Radiologic
Basic Nursing Care, Supportive and Self-help, Rehab — OT-PT, Dietary — Labs
Records
Referrals
Individual Health Care
Social, Psychological, and Family Services; Safety and Comfort, Physical and Mental Therapy
COORDINATION
THERAPEUTIC
General and Specialized Hospitals and Clinics
CONVALESCENT
Long-Term Care Facilities
Half-Way Houses
Extended Care Facilities
CUSTODIAL
Facilities and Services for:
Mentally Deficient and
Severely Distrubed Patients

through State departments of public and mental health; and (3) the U.S. Department of Labor and the Office of Economic Opportunity, through State departments of labor and other agencies. Also, the various subunits of federal agencies may provide direct funding to selected groups for specific purposes.

A number of agencies — the U.S. Public Health Service, the U.S. Employment Service, and the U.S. Civil Service Commission — are conducting studies of health manpower needs. Professional health associations and agencies often maintain staffs to identify needs in the health field. Each association or agency may, independently, establish qualifications and standards for their respective members and develop policies concerning health workers who function at supportive levels or those with shared responsibilities.

Attempts have been made to establish coordinated planning activities, clearing houses for information and common data resources. However, one of the primary needs of the health field is for an effective, coordinated clearinghouse of information and data in order to assess current situations, provide enlightened projections and support subsequent planning that will be responsive to changes in the demand for health personnel and in performance requirements. Such a mechanism would enhance meaningful expansion, modification or discontinuance of programs in accord with changing need and success in meeting performance criteria.

Components and Coordination of a Comprehensive Health Care System

Quality health care for all individuals and communities requires far more than personnel and facilities: positive attitudes, commitments, cooperation and coordinated procedures also are essential. In the past, an individual sought health care services by initiating contact with a physician or health care facility. Often the person was called upon to make his own diagnosis in order to determine where to go. More recently, however, there has been a growth in both the number and types of facilities and services that may provide entry contacts: community clinics, group practice units and other optional services. It is increasingly recognized that the full responsibility for comprehensive health care can no longer be provided by an individual practitioner. A team of specialists and close working relationships among all services and facilities must be available.

For purposes of analysis and discussion, health service units may be grouped into four general types: preventive, therapeutic, convalescent and custodial. Clear differentiation among services or units is neither possible nor intended. Figure 1 illustrates the groups, components and relationships that must be available and coordinated. It shows that the health care system is an integral part of the total community. All of its aspects focus on providing quality care to individuals. Although the separate and shared services and relationships are shown in a fixed diagram, obviously the system that provides health services must be dynamic.

The health care system must provide and deliver: (1) appropriate access points for all persons seeking services; (2) coordination among facilities, personnel and services to provide harmonious responses to individual needs; (3) efficient, effective and appropriate utilization of resources; and (4) procedures for sharing and exchanging resources, information and services. All components must function to provide quality health services in the interest of the individual.

Recommendations:

1. **The health industry and health needs are dynamic forces in today's society which should be reflected in the provision of public services and educational programs.**
2. **Public educational agencies and institutions should expand their role in the preparation and upgrading of health occupations personnel.**
3. **Each community should form and comprise an integrated, functioning unit for evaluating health needs and determining the means of meeting them.**
4. **Present services should be evaluated and, where necessary, additional services and facilities developed to provide comprehensive mental, physical, environmental and community health services for every individual.**
5. **All resources, public and private, should function cooperatively to provide quality preparation for, and services in, the health field.**
6. **Consumers of health services are assuming and should be given an increased role in planning and implementing the health care system.**

CHAPTER II
FRAMEWORK OF FEDERAL-STATE-LOCAL RELATIONSHIPS

Guiding Statements:

1. **The federal-state-local systems for vocational education offer new and expanded opportunities for health occupations education.**
2. **Greater responsibility has been given to state and local vocational education agencies for evaluating needs, planning and establishing long- and short-term programs.**
3. **Local initiative and efforts must be exerted on a continuing basis in obtaining resources and information from state and federal agencies, since federal and state legislation, policies and appropriations are changed frequently.**
4. **Most commonly, federal funds are provided to, or through, a state agency for local use; most are intended to be used in addition to, not as a replacement for, state and local funds.**
5. **Most federal governmental agencies and units have responsibility for administering specified legislative provisions. The legislation also specifies the purposes and conditions to be met for the use of the various funds.**
6. **A complex structure of multiple agencies and their sub-units provide resources and services to assist health occupations education programs and students.**

The Congress, in response to national concerns, has authorized and funded a number of programs and services to help meet identified needs. Recent and proposed legislation gives high priority to the provision of health services and the preparation of health manpower to meet the needs of a rapidly growing and changing health industry. An appropriate federal agency provides the leadership, coordination and administration for each legislative provision, often in cooperation with state and local agencies. Each federal agency has primary as well as shared responsibilities with other federal agencies.

At the federal level, the Department of Health, Education and Welfare (DHEW) is most directly concerned with health services and health occupations education. Within the DHEW, the U.S. Office of Education (USOE) and the U.S. Public Health Service (USPHS) carry out national programs of research and service in their respective areas. With few exceptions, federal agencies are not directly involved in the operation of local health services or educational programs. However, both the USOE and USPHS have responsibilities for administering funds and services which are available for state and local planning, development and operation.

Congress reaffirmed its support of vocational and technical education, including health occupations education, by passage of the Vocational Education Amendments of 1968. Funds from this Act, administered by the USOE, are allocated to the states to extend and improve occupational preparation of less-than-baccaluareate level; Part C of the Act, research and training, includes provisions for research in areas concerned with careers in "mental and physical health." Each state utilizes the federal funds plus additional state and local funds to develop and carry out programs of occupational exploration and preparation in cooperation with local educational agencies.

A federal-to-state-to-local structure is the most common relationship in the allocation of federal funds from the U.S. Office of Education, including those for vocational education. However, some federal programs make funds directly available to local units. Regulations and standards concerning the use of available funds may emerge or be modified at any governmental level. Regardless of the funding flow pattern, the federal government retains the authority for defining eligibility in the use of federal funds.

Activities using federal funds can usually be traced to explicit provisions in a specific legislative act. The provisions in the various acts are administered through a series of sub-units to reach the states. Federal departments, such as DHEW, are organized into offices, services, institutes and centers; within these, bureaus, divisions and branches are established as operating units. In the USOE, the Division of Vocational and Technical Education of the Bureau of Adult, Vocational and Technical Education is primarily responsible for health occupations education.

Amendments to existing legislation, new acts and their accompanying provisions in response to changing needs often result in changes in the organization and titles of administrative agencies and units.

Administrative and legislative changes as well as appropriation and budget delays can take place at either the federal or state level. To reduce the problems of local planning and programming, some local person must be responsible for maintaining current knowledge of legislation and planning at state and federal levels.

INFORMATION AND PLANNING RESOURCES

Each governmental unit has the responsibility to determine needs, establish plans and allocate resources according to priorities within its area of jurisdiction. Priorities established by sub-units for their jurisdiction will most likely reflect wide differences in needs, plans, and resources. Therefore, the primary responsibility for initiation of activities to meet local needs must come from the local level. On the other hand, local planning and operational activities must take into consideration the regional, state and national conditions. Many specialized health services require a large population and economic base for efficient operation. Cooperative planning must involve local, area, state and national information and groups.

Several types of services and sources of information are available from federal agencies; the major types of services may be grouped for discussion purposes.

Population: the primary source of information concerning the population and its characteristics is the U.S. Bureau of the Census. Reports giving detailed characteristics by states and their subdivisions are available.

Labor force: the Bureau of Labor Statistics of the U.S. Department of Labor issues many reports and analyses concerning all aspects of the labor force, including the health industry. Reports are often available for selected geographic areas, occupational fields, age groups and other characteristics of the labor force. The federal-state employment service can often provide helpful information for state and local planning.

Educational data and programs: the U.S. Office of Education and its administrative sub-units provide reports giving current information and projections. The National Center for Educational Statistics issues reports across all aspects of education. The Bureaus of Higher Education, Elementary and Secondary Education, and Vocational, Technical and Adult Education provide data as well as guidelines for development and operation of programs, faculties and facilities.

The Educational Resources Information Center (ERIC) has been established as an information dissemination system. See Appendix C.

Health needs and services: the U.S. Public Health Service and its various units, including the National Institutes of Health and Mental Health, provide a continuing flow of information concerning the health field. Reports of needs and projections concerning services, programs, personnel and facilities can provide valuable data for planning. The PHS publication **Health Manpower Source Book: Allied Health Manpower, 1950-80** (PHS Publ. No. 263, Section 21) can be especially helpful.

Special groups: the Vocational Rehabilitation Administration, Bureau of Indian Affairs, and Office of Economic Opportunity as well as other special agencies can provide information, and often support, for activities appropriate to those eligible for their services.

The Departments of Labor and Health, Education and Welfare have regional offices throughout the nation. Also, many of the services and funding activities operate through a federal to state to local system of agencies. Several mechanisms have been established to gain coordination among the various agencies at the federal and federal-state levels; examples include Comprehensive Health Planning Councils and the Comprehensive Area Manpower Planning Service (CAMPS). Appendix A contains additional information concerning planning and funding resources.

FUNDING RESOURCES FOR HEALTH OCCUPATIONS EDUCATION

The great number of acts and their amendments concerned directly or indirectly with health occupations education plus the complex of administrative and facilitating agencies makes it impossible to present uniform references or simple procedures for obtaining financial assistance for a local program. An act or section of an act may provide funds for only one purpose, while another act may have a combination of provisions which may include assistance for one or all of the following: planning, research, curriculum development, program improvement or expansion, construction of facilities, student stipends or student loans. Assistance may be provided directly to states, institutions, or individuals.

Under these circumstances, it is important that each local educational agency establish provisions whereby someone is assigned the responsibility, and given the support, to maintain current information on sources of, and procedures for, obtaining financial support. Many states and institutions of higher education have designated individuals or offices for this activity. Each state department of vocational education needs such a resource service. Contacts with these services can be of assistance to local persons. Often the state supervisor of health occupations can provide contacts and referrals.

References to specific programs, legislative provisions and titles of agencies are soon obsolete under the present circumstances. However, Appendices A and C contain additional references to programs and sources.

FEDERAL-STATE-LOCAL SYSTEM FOR VOCATIONAL EDUCATION

Federal acts providing financial support for vocational education through a federal-state-local relationship have been in continuous existence since 1917. A series of amendments and new acts have been enacted to increase the amount of support and provide a more flexible framework of operation. The Vocational Education Amendments of 1968, Public Law 90-576, provide greater potential for meeting the needs of vocational education than any prior legislation. Health occupations is included within the general provisions of this Act.

Provisions of earlier vocational education acts allocated specified amounts of money for expenditure in support of identified occupational fields. As early as the 1940's, some health occupations programs were given support from funds allocated to the "trades and industrial occupations" category. Title III of the Health Amendments of 1956 amended the then existing vocational education legislation to authorize annual appropriations for educational programs in the health occupations. Most of these funds were used to support practical nursing educational programs. By 1969, over 1,100 practical nursing programs, generally 12 months in length, were in operation; most were supported in part by federal vocational education funds.

The Vocational Education Amendments of 1968, Public Law 90-576, have made comprehensive changes in the federal-state-local relationships for vocational education. While the basic structure of relationships has been maintained, significant changes were made in purpose, focus, amount of support, flexibility in state administration, and allocation of funds. Essentially, all occupations, usually requiring preparation of less-than-baccalaureate level, may be given support by the state.

Under these Amendments, allocations are made to the states on a formula basis. Each state determines the amount of federal funds to be used for each occupational field, including the health occupations. Interested persons in the state must make their needs known to the state department of vocational education to gain support from these funds. Provisions in the 1968 Act hold great promise. Leadership at the state and local levels is essential to assure effective use of these funds in program development and operation.

Purpose of the 1968 Vocational Education Amendments

The purposes of the Act are to assist the states to maintain, extend and improve existing programs; and to develop new programs of vocational education so that persons of all ages in all communities of the state will have ready access to vocational training or retraining which is of high quality. Programs must be realistic in light of actual or anticipated opportunities for gainful employment in positions suited to their needs, interests, and ability to benefit from such training. Funds are to be used to serve: (1) those in high school, (2) those who have completed or discontinued their formal education and are preparing to enter the labor market, (3) those in post-secondary schools, (4) those who have already entered the labor market but need to upgrade their skills or learn new ones, and (5) those with special educational handicaps. Specifically included in the Act are provisions for vocational guidance and occupational exploration activities in elementary and secondary schools.

Federal-State-Local Relationship

Based on provisions of the federal Act, each state must develop and submit a "state plan." The "state plan" serves as a working agreement between the state and the federal government. Expenditures must be made according to the state's pre-established priorities, procedures and policies. Each state now has greater freedom of operation and responsibility for planning; it has obligations to design programs on the basis of financial and manpower assessments as well as student needs. The federal Act specifies that the State Board of Vocational Education must be designated as the sole agency responsible for administering funds from the Act; State Boards work directly with local agencies.

Generally, all federal funds must be matched with an equal expenditure of state and/or local funds on a statewide basis. (In prior acts, matching expenditures were required on a program-by-program basis.) Differential rates of funding and support must be used by the state according to its established priorities, financial ability of local units, and the needs of students.

A National Advisory Council for Vocational Education and State Advisory Councils for Vocational Education are required; they serve as advisory and evaluation units for the respective federal and state agencies. The state advisory councils report directly to the state boards for vocational education and the National Advisory Council. Wide representation is required on each council to provide input from all concerned groups and interests.

Each state is now required to establish short- and long-term priorities and objectives. A one-year and a five-year plan are required, and both must be updated annually. The states, in turn, require local educational

agencies to submit local plans prescribing their accomplishments, needs, priorities and objectives. Local agencies submit their plans to the State Board for Vocational Education. The state reviews the local plans in light of the statewide priorities and the local agencies potential for contributing to these.

Provisions of the 1968 Amendments

Responsibility for overall coordination and administration of all programs and services making use of federal vocational education funds rests with the State Board for Vocational Education. Local, area or other state units such as colleges and universities may be delegated responsibilities and given support. Many types of programs and services are required, or may be provided, by the federal legislation.

Part B of the Act provides the majority of the funds that are allocated to the states as "grants-to-states." Provisions under Part B include:

vocational guidance and counseling — these services may be provided for the elementary years through post-high school and adulthood. Placement and follow-up activities are included;

programs for handicapped persons — at least 10% of the funds granted to each state must be used for this purpose;

contracts may be made for services with private agencies under certain conditions;

pretechnical — programs for secondary school students may be supported that prepare them for entry into more highly skilled vocational and technical education at the post-secondary level;

programs for post-secondary students — at least 15% of the funds granted to each state must be used for this purpose;

programs for adult workers — employed, underemployed or unemployed;

programs for persons with academic, socioeconomic or other disadvantages that may prevent their success in regular vocational programs — at least 15% of the funds granted to a state must be used for this purpose;

ancillary services and activities — research, curriculum development, teacher education and staff development.

Other sections of the 1968 Amendments authorize additional monies for special activities. Included are special provisions for the disadvantaged, residential schools, curriculum development, research, programs for leadership and faculty development, innovative and exemplary programs, and cooperative and exchange programs among educational institutions and employers. Some provisions have not actually been funded by appropriations. In many cases, the funds are reserved to the Commissioner of Education and are allocated by contract or special arrangements directly from his office to an agency or institution. The State Director of Vocational Education and the State Supervisor of Health Occupations in the Director's Office will have information concerning opportunities under these provisions and later amendments. Several of these provisions are particularly appropriate for activities in the health field.

Recommendations:

1. **A central coordination and information mechanism should be established at both the federal and state levels to improve the effectiveness of the various legislation and programs and to assist local educational agencies.**
2. **Local educational agencies should take the initiative in exploring sources of resources.**
3. **Each local educational agency should designate a person who is responsible for and knowledgeable about funding sources, legislation, and regulations.**
4. **National, regional, and state information and data sources must be utilized in formulating plans for a local program.**
5. **Each legal or operational unit must establish priorities consistent with determined needs.**
6. **Persons from the health occupations should seek representation on or contribute to the deliberations of the State Advisory Councils for Vocational Education and other related councils and committees.**
7. **Persons in vocational education, including those in the health field, should make their needs for state and federal funds and the benefits derived from use of these funds known to their legislators.**

CHAPTER III
GROWTH, CHANGES AND NEEDS OF THE HEALTH INDUSTRY

Guiding Statements:

1. **The health industry is that segment of the work force and the facilities that provides health care and supportive services to individuals and communities.**
2. **"Health occupations" defines the wide range of specialties and vocations that provide the supportive services to meet the health needs of individuals and communities.**
3. **In an attempt to meet the present and emerging needs of the health industry, there has been a rapid proliferation and specialization of occupations within each health field — medicine, dentistry, nursing, etc.**
4. **Each field has a hierarchical structure based on different skills, responsibilities, and educational preparation.**
5. **Under present, changing conditions, roles are not clearly defined. Confusion exists concerning: (1) titles, (2) functions performed by various health workers, and (3) types and levels of preparatory programs.**
6. **In the present structure, mobility within and among the health occupations is difficult.**

The "health industry" — a term used with increasing regularity — is the total of all persons, facilities and services that provide the direct and supportive energies and products to meet the preventive, therapeutic, convalescent and custodial health needs of individuals and communities. Attempting to define any industry carries numerous inherent risks; defining the rapidly changing health industry can only be accomplished in somewhat general terms. It is almost impossible to determine the common or accepted usage of definitions and terminology in the health field due to the rapid changes and the numerous groups and agencies concerned.

These **Guidelines** focus on those persons and activities where some specialized health related competency, or the application of a general competency, is appropriate in providing health services. Most often these competencies, whether specialized or general, are obtained through an appropriate educational program.

"Health occupations" is a generic term used to include the wide range of vocations and specialties that provide health services, either directly or indirectly. As used in these **Guidelines**, the term "health occupations" includes all types and levels of health related workers. Such an approach is essential to establish a functional base for meeting health needs. Although all levels and specialties are included in the generic definition of health occupations, these **Guidelines** focus primarily on those health occupations which generally require less-than-baccalaureate-degree preparation. Approximately 85% of all health workers are employed in those occupations.

The attainment of quality comprehensive health services will require a coordinated approach in two major areas: (1) preparation of personnel, and (2) delivery of services. Isolation either by level or specialty will reduce effectiveness.

In 1966, Dr. William H. Stewart, then U.S. Surgeon General, estimated that 10,000 new health workers would be needed each month through 1975 — a total of approximately 1.5 million new persons. Since that time, the number of newly prepared workers has been below the projected need; in addition, the demand for additional workers continues to increase. Others have estimated that during 1970, approximately 250,000 persons were enrolled in all types of health occupations preparation programs, many of which would require four or more years for completion.

Dr. Roger O. Egeberg, Assistant Secretary for Health and Scientific Affairs, U.S. Department of Health, Education and Welfare, also cited anticipated shortages of technical-level health personnel in the October issue of **Manpower**, a magazine published by the U.S. Department of Labor. He estimated a 1975 shortage of 88,000 in the medical field, 42,000 in the dental field, and 59,000 in the environmental health field. By 1980, these shortages would increase to 105,000; 67,000; and 74,000, respectively. These figures do not include the larger number of workers who

will generally be prepared in programs requiring less than two years duration.

Reports from the U.S. Office of Education, Division of Vocational and Technical Education show for 1969 that 176,344 students were enrolled in health occupations programs supported at least in part by federal vocational education funds; over 7,000 instructors were employed in these funded programs. Approximately 30,000 of this total were youth in secondary school programs preparing for employment in the health field. The total enrollment represents a 24.2% increase over 1968.

In 1970, health industry expenditures will exceed $60 billion annually and reach a new high annual rate of growth. Almost 7% of the gross national product will be devoted to health services with almost five million health and related workers employed. A doubling of the number of health workers and a fivefold increase in expenditures has occurred in the past 20 years. It is reasonable to project that by 1975 this industry will have become the nation's largest; one of each sixteen workers in the labor force will be employed in the health field.

CHANGING ROLES AND RELATIONSHIPS AMONG THE HEALTH OCCUPATIONS

The number of workers and dollars spent, however enormous, does not alone reflect the actual magnitude or complexity of the changes taking place in the health field. Changes in terms of emerging specialties, multiple levels of preparation, definition of roles and new methods of health care delivery are necessitating adjustments and redefinitions. Because present resources are over-taxed, further changes will be necessary if the increasing demands are to be met. A primary burden will be carried by workers who are supportive to independent practitioners. In the ultimate sense, physicians and dentists have the independent responsibility and legal authority for diagnosis and prescribing treatment. In the areas of public or community health, the independent practitioner or others may gain authority from statutes or public regulations. All other health personnel function within this over-all authority, although many specialists may be licensed to practice within prescribed limitations.

At the turn of the century physicians and dentists constituted 97% of the somewhat less than .5 million health workers in this country. By 1966, these two groups represented only about 16% of the over 2.5 million who were providing direct health care; 84% were in the categories of allied and supportive health workers. Between 1950 and 1965, the number of health workers expanded from 1.5 to approximately 2.8 million workers, or by 87%. Although many roles and relationships are yet to be defined, it appears that the independent practitioner will function as the leader of a team composed of a variety of specialists prepared at several levels.

Approximately 400 health occupations titles have been tentatively identified, 125 with a primary health orientation and 250 with a secondary or related focus on health. **Health Resources Statistics 1968**, PHS Publication No. 1509, established 32 categories within which 125 health occupations were identified by title. More detailed description and manpower information is given for 35 of these occupations. Personnel included among the specialties are: nurses, physical therapists and aides, environmental technicians, biomedical electronic technicians, dietitians and food service personnel, public health workers, speech pathologists and therapists, social workers, psychiatric workers and aides, and medical laboratory personnel at several levels.

Other sources may be utilized to gain additional information concerning the health occupations. The **Dictionary of Occupational Titles** provides general data and descriptions of several thousand occupations, including those in the health area. A more complete description, means of preparation, and projections of employment opportunities for several hundred occupations are provided in the **Occupational Outlook Handbook**. Sections for the individual occupations are available. A revised edition of the 1965 **Health Careers Guidebook** is being prepared. The **Guidebook** gives detailed descriptive information for the health occupations field and individual occupations as well as sources of further information. Each of the above references may be obtained for a nominal charge from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402. **Career Opportunities — Health Technicians** (Appendix D) also provides extensive information concerning the health occupations.

The underlying reasons for the growth of specialization in the health occupations are the changes in technology and scientific knowledge of health and illness. Specialties have resulted because of divisions of labor, sharing of responsibilities, and the team approach to providing health services. As the professions delegate responsibilities and functions to supportive or allied health personnel, coordination and management become important functions. Each of the traditional professions — medicine, nursing, pharmacy and dentistry — has undergone a shift in roles and responsibilities. For example, many nurses have become specialists rather than general practitioners; the changing role of the physician has brought about the need for an increased number of supporting specialties. Similar changes have also occurred in most allied health fields such as the clinical laboratory

services, community health, rehabilitation, social work and other areas.

For discussion purposes, the health occupations and services may be classified in several ways: by types of service, by levels of preparation or functioning or by specialties. For example, classification by type of service may include: (1) duties that provide direct patient care at all levels (medical, nursing, psychiatric, or emergency); (2) direct patient services (rehabilitation therapy, X-ray examination, inhalation therapy, or operating room technician); (3) technical support service (clinical laboratory, biomedical electronics, dental technician); (4) institutional support services for the buildings and facilities (food services, housekeeping); (5) social and environmental public health services; (6) health education; and (7) administration, business and records services. Groupings and categorization in these **Guidelines** are somewhat arbitrary, but attempts have been made to follow patterns of terminology in the field.

Changes in Role and Function

Each technological advancement and the further expansion of scientific knowledge create additional functions to be performed. Initially, existing practitioners perform these functions; but, as the practice becomes more specialized, or increases in volume, other persons are prepared, or retrained, with a primary emphasis in the performance of the specialty. In process, many roles and functions may be redefined and new relationships established.

Figure 2, originally developed by Robert E. Kinsinger of the Kellogg Foundation, provides an example of the shift in responsibilities; many functions once performed by the registered nurse have been shifted to workers in other specialties or occupations. Other functions are the result of new specialties. It should be noted that the functions may now be performed by others who have had varying levels of preparation. For example, the registered physical therapist is required to have a baccalaureate degree while the central supply technician may complete a training program in one or two months.

FIGURE 2: SHIFT IN PATIENT CARE RESPONSIBILITIES

Traditional RN Functions	Occupational Specialties
Diet Therapy	Dietician
Social Service	Medical Social Worker
Central Service	Central Supply Technician
Rehabilitation Therapy	Physical and Occupational Therapists
Medical Records	Medical Record Technician
Scrub and Circulating Nursing	Operating Room Technician
Bedside Nursing	Practical Nurse, Nurse Aide, Orderly
Oxygen Administration	Inhalation Therapist
Recreation Therapy	Recreation Therapist, Volunteers
Electronic Monitoring	Biomedical Electronic Technician
Emergency Service	Medical Emergency Technician
Employee Interviews	Personnel Director
Administration	Unit Manager

Levels of Preparation

Each specialty has made adjustments to gain more efficient utilization of the very short supply of personnel prepared at the higher level; these adjustments have led to the development of several supporting levels within that specialty. Formal preparation programs are now being established for each of these levels. A hierarchy has tended to develop within each specialty, with occupations based on levels or responsibility and tasks performed. The type and length of preparation is determined accordingly. In nursing, for example, there are presently three recognized levels of personnel: the registered nurse, practical nurse, and nurse aide. Some nursing organizations have proposed that registered nurses should be further divided into professional nurses (those with a four-year nursing degree), and technical nurses (those who have completed a community college associate degree and those who have completed a diploma program in a hospital school of nursing).

Figure 3 is a scheme of the levels of preparation, usual places of preparation and usual length of the preparation program. Terminology in titles and length of preparation can only be representative, since many variations exist and changes continue to occur. For example, the term "professional" may be used for persons who have completed a program varying from two to eight years, or more. A "physician's assistant" may require five or six years of preparation, while

FIGURE 3: LEVELS OF PREPARATION OF HEALTH PERSONNEL

Level of Preparation	Usual Place	Length of Program
Aide	On-the-job in health care facilities Secondary schools Private schools Volunteer groups	4 weeks to less than one year
Assistant	Health care facilities Technical institutes Community colleges Private schools Special government programs Secondary schools	Generally one year
Technician	Health care facilities Community colleges Technical institutes University affiliated medical centers Private schools	Generally two years or more — Associate Degree
Technologist, Therapist (allied health professionals)	Colleges and universities	B.S. degree, possibly M.S.
Independent Practitioner (Physician, Dentist, and Veterinarian)	Colleges and universities Medical and dental schools	Postgraduate program at the doctoral level with internship
Scientist (usually research oriented)	Universities	Postgraduate, usually at the doctoral level

the "physician's office assistant" may be prepared in one year or less.

Currently, a number of groups and agencies, including the American Association of Junior Colleges and the Council on Medical Education of the American Medical Association have projects underway to gain more common definitions and greater uniformity among preparatory programs. The U.S. Office of Education has established a Standard Classification System to gain uniformity in reporting and analysis.

PREPARATION AND MOBILITY IN THE HEALTH OCCUPATIONS

With the many specialties, levels within specialties, types of preparation and different types of employment, occupational mobility becomes a primary concern. At present, complex and often contradictory patterns exist. Although Figure 3 may seem to indicate possible natural sequences of progress, today such vertical movement is difficult; lateral movement across fields is even more difficult. Several factors contribute to the existing pattern of relatively independent, terminal preparatory programs that prevent a fluid mobility across and between levels and specialties. Many factors are the result of historical developments and group identities. Also, the preparation and utilization of personnel is often influenced by the type or purpose of the facility in which the activity takes place.

Present difficulties can be eliminated, or significantly reduced, but only by the concerted and cooperative efforts of all appropriate licensure agencies, educational institutions and health facilities. To improve the health care delivery system, opportunities and means must be provided whereby an individual committed to the health field can — commensurate with his motivation, interest and abilities — enter, achieve initial preparation, maintain competency and progress within the field. Optimum utilization of human resources and quality health services dictate such an approach.

"Essentials," or guidelines, for many types of preparatory programs have been developed by, and are available from, practitioner associations and related groups or agencies. Licensing boards and regulatory agencies in each state also establish criteria for preparatory programs and for practitioner performance. Appendix B lists a number of these sources. Often, these guidelines include the personal characteristics, interests and abilities deemed desirable for the potential worker. Attempts are made to provide

this information concerning opportunities, interests, abilities, skills and aptitudes for wider usage and is of value to counselors, teachers, etc. Among the wide range of health occupations, opportunities are available for many people with varying abilities and interests. Therefore, occupational choice in the health field may involve the following considerations:

level of preparation desired; amount of time that he can, or wants, to invest;

ability, interest and aptitude;

prior occupational experience that may provide a base for preparation or entry-level position, e.g., secretarial, volunteer;

desire for direct involvement with people, patients, technical procedures or community groups; and,

desire for preparation with emphasis on preventive, therapeutic, convalescent or custodial aspects of health service.

The opportunity must be available to explore occupational choices, gain access to a preparation program and find employment commensurate with preparation and competency. The comprehensive education system must provide the foundation for, and the transition to, successful employment. Vocational education is an integral part of a complete educational system and has the particular responsibility in occupational exploration, preparation and upgrading processes.

Recommendations:

1. **Health professional and practitioner organizations, legal agencies, educational institutions and health care facilities should develop a coordinated approach to preparation, utilization and upgrading of health workers.**
2. **All concerned groups must expedite a cooperative approach to develop and adopt consistent terminology, occupational titles and job descriptions within the health field.**
3. **Vocational education, in cooperation with representatives from the health field, should take the initiative in providing exploratory, preparational and upgrading programs for health occupation workers.**
4. **Provisions for mobility within, and between, health specialties and occupations must be incorporated in preparation and in in-service education programs.**

CHAPTER IV
COLLABORATIVE ROLES IN HEALTH OCCUPATIONS EDUCATION

Guiding Statements:

1. **The focus of all health occupations education efforts is the preparation of competent workers to provide quality health services for all individuals and communities.**
2. **Four types of groups and their representatives primarily concerned with health care are: state legal agencies, practitioner associations, educational institutions and health facilities.**
3. **Each of the four has a basic and collaborative role in health occupations education.**

In the past, and to a great extent at present, the health professions and health facilities developed and guided the preparation and utilization of personnel within the framework of the states' and the health associations' rules, regulations and policies. Qualifications of teachers were prescribed by the facility that operated the preparatory program and by the profession most interested in the functions to be performed by the graduates.

The trend to move preparatory programs administratively from health service institutions to publicly supported education institutions (secondary school, technical institute, community college or university) has brought more attention to the role of the educational institution in the preparatory process. In the total process of preparing qualified, competent health personnel, new collaborative roles are required for educational institutions, health professional and occupational associations, health facilities and legal agencies. In this period of transition and growth, confusion and lack of clarity have often resulted. Adjustments are being made and new relationships are being developed to reach resolution of the goals of the groups who share responsibility for preparation and utilization of health personnel. The following discussion outlines the areas for which these groups have shared responsibility in the health occupations education process.

COLLABORATIVE ROLES

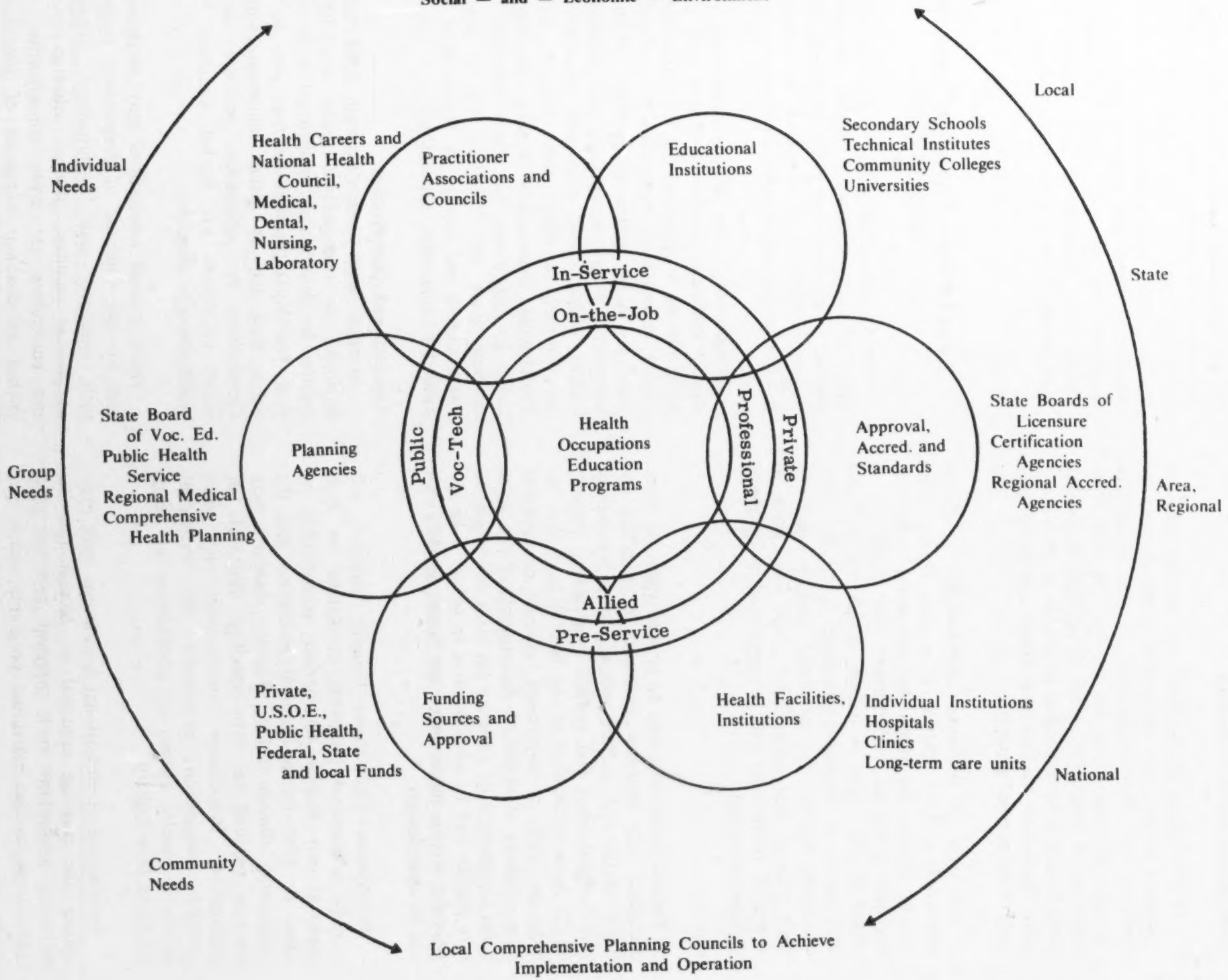
"Collaborative role(s)" refers to mutual and interrelated activities and actions regarding the preparation and utilization of health occupations personnel by the four groups, or components. Figure 4 graphically shows the interdependent nature of the collaborative activities of the four groups as they are involved in the operational aspects of coordinated educational programs. Also shown are two additional groups, or components, planning agencies and funding sources. These latter two groups may be viewed as providing facilitative or supportive roles, as opposed to having direct operational roles, and are covered in more detail in later sections of this bulletin.

Figure 4 illustrates that the interdependencies involved in comprehensive planning, implementation and operation of health occupations education programs take place in the larger social and economic environment. Operational and supportive components operate at the local, state, regional and national levels; each comes to focus at the individual health occupations education program. Pre-service and in-service programs may be operated from entry level through the professional level by either public or private agencies. Sound planning and effective program operation require: (1) that there be continuous coordination and interchange of information and resources, (2) that among the components there is a balance of relationships and interest which reflects the needs and concerns of individuals, specialized groups and agencies and the community. At the local level, some facilitating mechanism such as a local comprehensive planning council must function to bring all of the components and interests together and achieve effective implementation and operation of health occupations education programs.

APPROVAL AND REGULATORY PROCEDURES

Several types of groups and agencies are concerned with voluntary or required recognition and approval procedures; each has developed its own guidelines and standards. Legal and regulatory agencies usually obtain their authority from statutes, while the approval procedures used by associations of practitioners or institutions are based on the voluntary support of their members. Legal requirements must be met and approval gained for many health facilities. Approval of the practitioner, educational program, educational institution or health facility may be given by an appropriate association;

Figure 4
Components for Coordinating Health Occupations Education Programs
Social — and — Economic — Environment



in some cases, approval by the appropriate association is a prerequisite for eligibility to receive federal or state funds. In some cases, as many as eight separate approvals may apply to a single health occupations education program.

In an attempt to coordinate the various voluntary approval groups, the National Commission on Accrediting has been established; it gives recognition to approval associations and groups. The U.S. Commissioner of Education grants recognition to associations that approve individual programs or institutions; some legislation requires that funds are to be used only at "approved" programs.

Licensure of personnel and facilities is almost exclusively a legal function of a state agency. Provisions among the states are somewhat similar to facilitate credential endorsement and exchange. A board of some type is usually designated for each area where a licensure procedure is to be used. Licensure boards for personnel usually state in their policies that preparation must take place in approved institutions and be conducted by properly certified personnel.

Federal regulations may be of two types: (1) those concerned with interstate commerce or with the nation's health and welfare where direct jurisdiction may be established and applied by a federal agency, or (2) those established at the federal level that require the states to implement licensure or approval as a condition of eligibility. An example of the latter is the requirement of licensure for both the long-term care facility and its administrator in order to be eligible for certain funds under the Social Security Act and its amendments.

Practitioner associations typically approve and accredit educational programs; conditions for such approval may include appropriate accreditation of either or both the educational institution and the cooperating clinical facility. Faculty members may also be required to have specified approvals or preparation. Practitioner associations may also establish recognition procedures for individual members, usually known as certification or being placed on their registry.

Associations of educational institutions have procedures for granting approval or accreditation to individual institutions; such approval does not generally apply to the individual programs within the institution.

Precise definitions and distinctions of terms and procedures concerning approval are not possible; exceptions in terms and procedures may be found for each common practice. In the following sections, the most common practice as it applies to each component is reviewed.

The responsible administrator of a health occupations education program must determine applicable legislation and policies. Only through having appropriate approval for each aspect of a program can the institution take advantage of all resources and provide the graduates with the greatest opportunity. Assistance by advisory committee members, concerned state departments and associations will be most helpful in meeting the requirements.

HEALTH PRACTITIONERS AND THEIR ASSOCIATIONS

Health associations can be generally defined as those voluntary groups of health practitioners organized to promote and guide developments in their respective fields, to set standards for education and practice, and to certify qualified members.

Traditionally, the health professions have included medicine, dentistry, nursing and pharmacy, each with an organization for its practitioners. Each profession has been responsible for determining the functions falling within its specialty. With the development of new occupations and subsequent specialties within them, additional associations have been formed to reflect their interests and needs. Professional associations usually develop "essentials," or guidelines, for their specialty and coordinate these activities with related associations. Joint councils and boards are beginning to be established for cooperative relationships.

Approval and Accreditation

In many cases the professional, allied health professional, or occupational group establishes procedures for determining competency in its respective area. Individual practitioners may also be licensed under state law to assure minimum competency. Certification or registration provides means by which individuals are further endorsed by their health specialty associates.

Health-related associations may establish standards for the approval of preparatory programs in their specialty; staff qualifications, clinical and educational facilities, student selection procedures and curriculum are given consideration. Related interest associations, composed of practitioners at a higher level in the specialty, may also provide approval. As examples: the National League for Nursing accredits all types of nursing programs. The American Medical Association provides "essentials" and approval for a number of allied medical programs. This type of accreditation or approval is

voluntary, based upon the request of the individual program.

Collaborative Role in Health Occupations Education:

assist educational programs in developing curricula for the preparation of health workers;

cooperate with hospitals and other health facilities in making decisions and establishing policies concerning job functions and performance of practitioners;

assist the legal agency, or regulatory body in the state, in developing regulations and requirements for the licensing of practitioners and the approval of programs;

develop guidelines for clinical relationships, staffing, and placement of graduates of approved programs;

regulate and guide practitioners in the legitimate practice of the profession or occupation;

assist in developing standards and qualifications for the preparation of faculty and for clinical supervision;

assist in evaluation of the educational program and the performance of its graduates.

HEALTH SERVICE FACILITIES

A health service facility is any institution or work setting that provides direct or indirect health care or services for the public. This may be a hospital, nursing home, extended care unit, neighborhood clinic, physician's or dentist's office, laboratory or other public or private clinic. A health service facility that cooperates by providing its facilities for the clinical phase of an educational program must do so without jeopardizing its primary role.

A hospital or other clinical facility is legally and morally responsible to the patient, to the community and to the sponsoring organization for the conduct of all activities within the institution. As an employer, it has responsibility in recruiting personnel, staffing relationships, in-service education and all other activities involved in carrying out its service function. To insure efficient operation, it must have adequately prepared personnel to meet the needs of all those whom it serves.

Approval and Accreditation

State statutes may require licensure of selected health service facilities. A single agency may license all types of facilities in a state or a separate agency may be designated for each type of facility. To be eligible for participation in some federal programs, such as Medicare and Medicaid, the appropriate state agency must license both the facility and selected personnel at the facility.

In addition to the legal requirements of licensure, professional associations also provide accreditation to eligible institutions. The Joint Commission on the Accreditation of Hospitals provides for the approval of hospitals; members of the Commission are the American College of Physicians and the American College of Surgeons of the American Medical Association and the American Hospital Association. A hospital of any type may seek accreditation from this Commission. The American Association of Nursing Homes for the Aging and the American Nursing Home Association also provide accreditation for eligible, specialized facilities.

Generally, a health service facility should be approved by both the appropriate legal and professional groups if it serves as a cooperating clinical facility for an educational program.

Collaborative Role in Health Occupations Education:

cooperate with educational programs by providing clinical facilities for the pre- and in-service preparation of personnel in health occupations;

cooperate with educational programs to promote and develop orientation and guidance programs for the health care field;

assist in recruitment for, and occupational orientation to, health careers;

assess the duties and functions of the workers in the health facility;

cooperate with educational programs in evaluating the performance of their graduates;

provide opportunities for health occupations faculty to re-enter a clinical setting for additional experience and updating of technical competency;

cooperate with educational institutions, professional associations and other groups in assessing local and regional needs;

communicate changing needs for, and functions of, personnel within the health facility;

cooperate with educational institutions and other health facilities in promoting and conducting in-service programs for personnel within the employment setting;

cooperate in developing guidelines for cooperative programs;

cooperate in ascertaining community and consumer needs;

cooperate with educational institutions, professional associations and other health groups in promoting public awareness of needs in the health field.

EDUCATIONAL INSTITUTIONS

These **Guidelines** focus on public community colleges, technical institutes, area vocational centers and secondary schools that have a primary responsibility to provide occupational guidance, orientation and preparation for youth and adults for entry into the world of work. Colleges and universities have an interrelated role plus responsibilities for more advanced preparation of practitioners and health occupations faculty. Although the location of and responsibility for educational programs are shifting to public, tax supported institutions, private and proprietary programs and health service facilities provide many educational programs. All educational institutions must assume responsibility in assessing and helping to meet the need for health occupations education programs.

The public educational institutions should assist in meeting the health manpower needs, but not at the expense of other educational and vocational needs of students. Public institutions have a responsibility to the public to assess educational needs and to establish priorities in relation to consumer demands and needs, employer needs and the availability of recruits for different preparational programs. Public and private institutions should be sensitive to the changing needs and patterns of personnel utilization so that accompanying changes can be made in occupational preparation programs.

Approval and Accreditation

Approval of educational institutions is provided by regional associations, each of which is a member of the National Association of Colleges and Secondary Schools. This procedure is voluntary on the part of the institution, and accreditation applies to the institution as a whole, not to its individual programs. Approval of individual curriculum or program is usually made by the health specialty association as cited in a prior section. In recent years additional voluntary accrediting associations have been formed on the basis of a common interest, often related to type of program offered, as a means of giving recognition to their members. Educational institutions may also be required to be approved by state agencies.

Collaborative Role in Health Occupations Education:

coordinate student learning experiences provided by educational institutions, clinical affiliates, and practitioner groups on the basis of community need;

assess curricula and methods to meet objectives and requirements established by professional associations and job functions in the employment setting;

evaluate educational programs in cooperation with health facilities and other advisory groups;

assist professional associations and approval agencies in developing learning experiences for the various performance levels and specialties;

provide educational opportunities for youth and adults to explore careers in the health field;

develop curricula on the basis of performance objectives taking into account the level of the recruit and the level of the practitioner to be prepared;

cooperate with approval agencies and associations to assist in identifying needs of health occupations teachers;

assist the legal agencies and professional associations in deriving practical requirements for quality practitioners;

share in the responsibility for adjusting educational programs to meet local, state, regional and national health needs;

share with health facilities and health associations the responsibility for inclusion of the consumer, in the over-all planning for educational programs;

share with local agencies (employment, welfare and others) in recruiting personnel for vocations and careers in the health field.

STATE LEGAL AND REGULATORY AGENCIES

Occupations and facilities that are required to be licensed are regulated by state law. For administration of the law, regulations are developed from a basic act by a designated agency. These agencies are established in the public interest to assure that an approved practitioner has met certain minimum qualifications to practice in a specific profession or occupation. Boards usually provide rules and regulations for the approval and operation of educational programs, including qualifications for faculty and

components of the curriculum. A person must usually complete an approved program before becoming licensed. Professional associations may collaborate with legal or regulatory agencies by recommending individuals for appointment to licensure boards, assisting in the development and application of rules and regulations related to practitioner competency, and consulting in program development. Since licensure boards function in the public interest, many states are adding consumers (lay members) to the boards.

Collaborative Role in Health Occupations Education:

provide consultation and leadership functions for the health professions or occupations concerned;

cooperate with educational programs to assess compliance with regulations in relation to practices and functions;

assess job functions in the work setting and assure that standards are maintained;

cooperate with and evaluate programs to insure that instructional personnel are adequately prepared and qualified to prepare practitioners;

cooperate with health facilities to insure adequate clinical experience;

cooperate with other health and public groups in changing regulations to meet new conditions.

Recommendations:

State and Regional

1. **Each professional association should review legal and association requirements and policies in view of the changing role of the health professionals and the growth of health specialties**
2. **Boards of licensure should include broad representation from health facilities, other health professions, lay persons and educators who contribute to maintaining preparatory programs commensurate with quality performance. All necessary actions taken must be for the protection of the patient, practitioner, student and community.**
3. **At the operational level, advisory committees and ad hoc groups should be utilized to coordinate planning for the preparation and utilization of health personnel.**

National

1. **At the national and regional levels, coordination should be effected through existing private and governmental structures wherever possible.**
2. **Professional, allied health and other occupational health personnel should improve communication to promote programs with shared responsibilities among the specialties.**
3. **Federal agencies should increase efforts to provide leadership to state and local levels through effective coordination, funding, planning, and information exchange.**
4. **Accreditation and approval groups should establish joint and cooperative procedures.**

Local

1. **Joint activities should be directed to making vocational information and orientation available to youth so they can make an informed occupational choice.**
2. **Educational institutions, especially at the secondary level, should increase activities that encourage and promote health careers.**
3. **Educational programs should meet all rules and regulations for certification and licensure so that their graduates are eligible for licensure and maximum employment opportunity.**
4. **Educational institutions, programs and clinical affiliates should be properly accredited. Appropriate representatives of approval groups and agencies should be included in the early planning for educational programs.**
5. **Local professional groups should help to recruit students and to inform the community about the need for health workers.**

CHAPTER V
PERSONNEL AND PROGRAM RESOURCES FOR HEALTH OCCUPATIONS EDUCATION PROGRAMS

Guiding Statements:

1. **Programs in health occupations education have a dual responsibility: fulfilling students' needs, and providing qualified practitioners.**
2. **The public schools have an inherent role in facilitating career planning and decision making for all students, including those who may find an interest in health careers.**
3. **Modifications in educational programs, qualifications of students, personnel approval and faculty utilization can improve career mobility and the quality and quantity of health services.**
4. **Additional sources of personnel, students, and faculty can be developed by coordinated efforts in providing appropriate programs.**
5. **Increased efficiency and quality can be obtained through coordinated use of available resources.**
6. **At present, financial resources for the support of health occupations education programs are insufficient.**

Expansion and developments in the health industry have resulted in extreme shortages of qualified personnel in all specialties and at all levels. Concomitantly, there have been created extensive opportunities for persons seeking meaningful and productive careers. The current and projected shortages of personnel exist in the presence of a wealth of potential human resources; manpower and womanpower are the most valuable resources in our society. Yet, this potential resource will remain unrealized unless an efficient, coordinated transition mechanism is established whereby potential workers can become competent contributors to meeting the health needs of society.

A quality system of education must be developed to provide this transition mechanism. An approach must be implemented that is capable of: (1) reaching all those desiring, and in need of, services, (2) providing a wide range of educational opportunities appropriate to the needs of each individual, and (3) assuring a supply of competent practitioners for both consumers and employers.

Health occupations education is a part of the total educational system. At the elementary and junior high school levels, health careers information should be an integral part of the regular educational program, just as information concerning all other occupational areas should be. At the other end of the continuum, highly specialized, short-term training sessions on the operation of new equipment, or the performance of new procedures, should be conducted for specialists.

In our society, there will never be an adequate supply of human, financial or institutional resources to meet all needs at an optimal level. Extensive planning and coordination must be implemented to gain the maximum benefit from resources. The **means of using** available resources becomes an additional resource in itself by increasing the efficient utilization of the others. The nature and organization of the educational programs, the free flow of personnel to positions of competency, the joint preparation of staff, the cooperative use of staff and facilities and the recruitment of students are means of extending resources for meeting the needs of health occupations and health services.

STUDENT-PRACTITIONER RESOURCES

The public educational system has the obligation to provide general education for all members of society. Additionally, it has been expected to provide the specialized occupational or vocational education for those persons entering occupations that usually require a baccalaureate or higher degree — physicians, lawyers, engineers, teachers, etc. However, in recent times society has recognized the necessity to provide occupational education to all persons, regardless of the level of the occupation or number of years required for preparation. It is now generally agreed that the educational system must accept the obligation to prepare all persons for entry into, progress in, and retraining for, the world of work. The health industry is an important part of that world of work.

Each year, approximately four million youth reach 18 years of age. Of these, about one-third do not complete high school; one-third complete high

school and enter some type of post-high school education program; and the remaining third complete high school and then enter the labor force. A significant proportion of those who enter a post-high school program drop out before program completion or gaining employment competency. Only about 20-25% of the population receive a bachelor's degree. Thus the public educational system has the obligation to help all persons bridge the gap between school and work. Area vocational schools, technical institutes, and community colleges, as well as vocational programs in comprehensive high schools, are expanding to meet the needs of those who, until recently, have had available only a traditional college preparatory curriculum.

The President's Advisory Council on Vocational Education, 1968, in its report, **Vocational Education —The Bridge Between Man and His Work,** USOE Bulletin, OE 80052, cites the need for continuous and comprehensive programs — from the elementary through the post-high school level. In subsequent reports, the National Advisory Council for Vocational Education has made recommendations related to this need. Much of the occupational preparation will, and should, take place at the post-high school level. However, since for the present time and the foreseeable future a significant proportion of youth will not complete high school nor enter a post-high school program, occupational preparation must be available at the secondary level.

Students from Comprehensive Schools

All persons make decisions concerning occupational choice. Increasing evidence from research indicates that by the time students reach the mid-elementary grades they are forming images of and preferences for their occupational future. These findings tend to be consistent across ability levels and socio-economic backgrounds. Many youngsters have a general, but often distorted knowledge about educational prerequisites and occupational requirements. They are naive concerning actual education and ability requirements and specific concepts of work. Often, too, they are completely unaware of many fields of employment and the occupations within each field. True educational opportunity requires an awareness not only of all occupations but also the availability of programs where preparation may be obtained.

Desired programs must be within the resources of the individual. The public school system must contribute to the improvement of occupational choice and educational opportunity by providing: (1) information concerning occupations and the world of work as a part of the elementary and junior high school program, (2) exploration and try-out experience at the junior high and early high school years, (3) pretechnical and occupational experience for those planning post-high school occupational programs, and (4) preparation for entry level occupations.

Programs must provide not only a sound basis for the process of developing self-identity, self-evaluation, and psychological growth but, also, opportunities for developing vocational maturity. For a significant proportion of high school students, salable skills must be developed before they leave the formal school program. Health occupations education must be included as a part of such a comprehensive program.

Unskilled and Underemployed Workers

A significant number of unskilled, semi-skilled and other workers employed below their potential are being released from their jobs due to technological advancement and job obsolescence. Without additional preparation or retraining, new opportunities for employment are extremely limited. To assist individuals in making the transition to a new career, occupational education programs, including those for the health industry, need to be available on flexible schedules, including part-time and evening.

Women

In recent years, women entering or returning to employment have accounted for a majority of the increase in the total labor force. Many studies show that older women, as family responsibilities become less demanding, are motivated to seek opportunities in the world of work. Often, a career in the health industry will be a woman's first venture outside her home duties. Prior restrictions on older and married women are being relaxed or removed; and when opportunities are available, women previously employed in unskilled or semi-skilled work can provide a valuable resource for health occupations.

Persons Who Have Started But Not Completed More Extensive Programs

Many youth initially start, but do not complete, a collegiate or professional education program. This program of preparation may have been unrealistic for them at that time: academic problems, ineffective guidance and counseling, inadequate finances or low motivation may have contributed to their leaving the initial educational program. Drop-outs from these programs may not have been aware of the opportunities in the health field or able to take advantage of them. Some may now be interested in entering a program in the health occupations; advanced standing may be possible.

Drop-outs from High School

A number of youth find their secondary educational experience irrelevant to their life situation. For them, programs in the health field, possibly at

a community college or area vocational-technical school, can provide opportunity for preparation at a level commensurate with ability, interests and requirements for preparation.

Disadvantaged

For many persons in need of initial career preparation or retraining, personal and family needs may be insurmountable unless programs are funded to provide tuition waivers, stipends, work-study programs or cooperative work arrangements. Remedial programs also may be necessary to insure success in preparational programs. Whether the disadvantage occurs from economic, cultural, or social conditions, many so-called disadvantaged persons can provide a valuable human resource for health occupations. Careful planning on the part of the community and the educational institution will be required to assess needs and to provide funds for the disadvantaged. While the responsibility and initiative fall to the educational system, a local advisory committee or council and regional planning agencies collectively can assist in the evaluation of resources for programs to meet the short- and long-term needs of the target group. Many of those in the "disadvantaged" classification have been successful as measured by school performance, instructors' and employers' evaluations. Some have completed programs at the aide level. Others have advanced to, and completed, higher level programs.

Corpsmen from Military Service

Approximately 30,000 medical corpsmen return to civilian life each year. No precise data are available as to the number who seek employment in the health field. The principal reasons given for not assuming health jobs have been: (1) ineligibility for recognition in their specialty, (2) low wage scales, and (3) lack of responsibility or prestige in jobs for which they could qualify.

The U.S. Department of Health, Education and Welfare and the Department of Defense are cosponsoring a nation-wide program (MEDIHC) to encourage former servicemen and servicewomen to investigate the possibilities of a health career on their return to civilian life. Sponsoring coordinators for each state, such as a Health Careers Council, are now being established. A number of regulatory agencies and practitioner associations are modifying their regulations to permit advanced standing, or full approval, for military training and experience.

Younger and Older Males

With few exceptions, the health occupations have historically had an image of being a woman's field. With the new and emerging occupations, effort should be extended to prevent the attachment of masculine or feminine dichotomies as has happened with medicine and nursing. Men have particular opportunities in both traditional and new specialties. Significant increases in salaries should assist in increasing the number of men in the health field.

Counselors and employers must abandon the occupational images as they have existed. Recruitment and selection should be based on interest and ability. The effects of the 1964 Civil Rights Act may significantly affect job descriptions, salary differentials and distinctions.

FACULTY AND LEADERSHIP RESOURCES

Faculty for educational programs are generally drawn from qualified practitioners within the specialties. They must then gain the additional competencies required for their responsibilities in the educational process. Shortages of qualified leadership and faculty personnel in the health field are especially acute; there is no reserve of qualified personnel. Leadership personnel must be identified, recruited and developed from all possible sources.

A recent health manpower report to the President and Congress stated, "The shortages of competent faculty constitute the greatest obstacle to the improvement and enlargement of educational programs for the allied health occupations." All potential sources of faculty, and better plans for their utilization, must be explored. In many cases, practitioners may serve on a part-time or visiting-faculty basis. Shared faculty between two or more programs has proved possible and effective when preceded by adequate planning.

Qualifications of faculty members may be specified or required by each of the several groups concerned, similar to the procedures for approval of practitioners. In addition to being a qualified practitioner, the faculty member may also be asked to meet qualifications established by: (1) the licensure board for the specialty, (2) the practitioner association concerned, (3) state department of vocational education, (4) state teacher certification board, and/or (5) voluntary associations granting institutional accreditation. In most cases, qualifications are established to assure adequacy of technical preparation, demonstrated performance in the specialty and a measure of teaching competency.

Role of the Health Occupations Educator

Persons with preparation in health occupations education will be necessary in all types of educational situations where health workers are being prepared in either formal or informal programs. Some will provide the direct instructional activities; others will provide teacher education and support in other activities such as supervision, curriculum development, surveys and evaluation. In all cases,

they provide the vital linkages among the many persons and groups from education and the health community.

Examples of specific activities that may be carried out by health occupations educators are:

serve as a member of the team that develops and conducts occupational information activities;

provide leadership for the group that selects and arranges for clinical and field affiliations;

establish and carry out occupational exploration experiences, including arrangements for on-the-job observations by students;

conduct direct instruction in the classroom, school laboratory and clinical setting or field laboratory;

provide in-service education for persons who will serve as supervisors of students in off-campus learning experiences;

plan and arrange for in-service programs for currently employed practitioners;

carry out public relations and information programs;

recruit students;

maintain a continuous curriculum improvement program in light of new developments.

Preparation of Faculty

In recent years, it has been recognized that the preparation of faculty must be a shared undertaking wherein practitioners from the specialties are given professional teaching preparation through teacher education programs by colleges and universities. While this dual pre-service teacher preparation is a long-range goal, extensive provisions for in-service education are now necessary for those faculty members who are recruited from the supply of practitioners. In the past, qualified practitioners have been selected and assigned as teachers with little preparation for teaching.

The basic responsibility for faculty improvement rests with the employing institution or agency. In addition, each state department of vocational education has the obligation to provide, or support, teacher education as a condition of receiving federal funds. Many colleges and universities are establishing both long-term and in-service courses, institutes, workshops and conferences for health occupations faculty. Some health occupations associations are developing extensive continuing education activities in their area of specialty.

Workshops can be directed toward any phase of teacher preparation or improvement, including technical content, teaching materials, instructional media, supervision, leadership, or teaching techniques. Workshops can be conducted advantageously by joint groups — professionals, educators, and health facility administrators — to increase collaboration and provide for continuing education for teachers and instructors.

Differential staffing is the use of teaching personnel with different levels of preparation in contrast to all staff members having the same, highest level of preparation. This approach may be a partial solution to the scarcity of faculty. The instructional team approach in differential staffing is based on the same principles as the health care team. Every attempt must be made to promote instruction that will protect the interests of the patient as well as provide desirable learning experiences. Simulation of desired experiences may supplement but not replace essential actual experiences.

INSTITUTION AND FACILITY RESOURCES

Educational institutions, health care facilities and health associations and agencies have tended to operate as independent units. At times they appear to be almost in competition, even though their objectives may be similar. With present economic and social pressures for improvement of health care, resource investment must yield maximum efficiency; past approaches can no longer suffice. Cooperative or joint planning must be initiated to identify all potential situations that may be utilized for meaningful learning experiences and obtain maximum utilization of particularly scarce learning experiences.

Health Care Facilities

To assure an adequate supply of prepared health workers, employers of workers must better inform the public of their needs. Health facilities must attract employees and provide working conditions that compare favorably with those of other industries. Provisions for economic and personal security and for fringe benefits are basic to recruitment and retention of desired employees.

With the extension of health services to new and different types of units and locations, an equal extension must occur in finding and making use of affiliated experience centers. Educational institutions are beginning to provide teaching faculty adequate to supervise the students during the clinical aspects of their program and, in some instances, reimburse clinical affiliates for the use of their facilities and services. Cooperating clinical facilities gain indirect benefits, since studies have shown that a

relatively high percentage of graduates seek employment in a facility where they have received at least part of their educational experiences. Although many programs may be a cooperative venture between an educational institution and a health facility, the faculty must retain the responsibility for the educational program. There will always be a need for the health facility to maintain its own educational programs to meet internal needs.

Examples of educational activities that the cooperating health facility may provide include:

cooperative experiences for occupational exploration, advisory committee members, and visiting faculty to educational programs;

part-time student-learners' employment for cooperative education programs;

provision for use of clinical facilities and learning experiences for many types of programs;

communication facilitation and assistance in evaluation of students and their performance;

identification and referral of employees and others who may benefit from additional education;

assistance to students through scholarships or part-time employment;

initial in-service education for new employees and graduates of preparatory programs;

continuing in-service and upgrading programs for all employees.

Educational Programs

Traditionally, colleges and universities have provided preparation for independent health practitioners, while health service institutions have provided preparation of supporting personnel. Many four-year degree technologist and therapist programs are administered in senior institutions. The emerging community colleges, technical institutes and area vocational schools are becoming major institutions for initial and in-service occupational education. The Vocational Education Acts and leaders in vocational education support the community service philosophy of providing formal and short-term classes and programs on flexible schedules in these institutions.

Cooperation and close articulation between programs at all levels is essential; this is especially important between the secondary schools and the community colleges. In general, duplication of programs in the same geographic area should be avoided. However, when like programs have an adequate flow of students to be efficient and of high quality and where sufficient employment opportunities exist, duplicate programs may be desirable. In all cases, preparatory programs must provide for advanced placement based upon demonstrated competency in order to avoid waste of both individual and public resources.

Most of the following will have to be provided by the secondary or post-secondary institutions, preferably as an integrated endeavor:

remedial and improvement programs in general education;

short- and long-term formal preparatory programs;

flexible class schedules to accommodate time and location needs of potential students;

upgrading for employed, and preparatory or retraining for unemployed, workers;

service courses and programs to meet the needs of employers and other groups;

guidance, counseling and placement services for youth and adults.

ORGANIZATIONAL AND OPERATIONAL MEANS TO ENHANCE RESOURCES

Educational programs — even with adequate potential students, cooperative health facilities and faculty — will not fuction without commitment, positive attitudes, cooperation and leadership among all concerned. The following sections describe means by which a greater benefit may be obtained from available resources. See Appendix D, especially Kintgen.

Recruitment of Students

Organized and extensive cooperative efforts must be undertaken to acquaint the public and potential students with the opportunities in the health occupations. A positive image must be created. Many specialties are unknown to the public. An automatic flow of students to a new program or institution cannot be assumed, even though there may be many employment opportunities; initial classes may be small. Several studies have shown successful graduates to be the best source of referrals for applicants. Sponsoring institutions must be willing to invest in the developmental years until the program is well established. A good guidance and counseling program can help in making programs known and in assisting individuals in making occupational choices

compatible with their interests, motivations, abilities and needs.

All health associations must assume a substantial role in the recruitment of workers. Basic to this role are cooperation and participation with the educational institution in providing information for career orientation. To recruit an adequate number of persons, every resource should be considered, e.g., state and local employment services, employers, public aid and welfare agencies, and rehabilitation agencies. All can provide valuable assistance.

Career Ladders and Lattices

'Career ladder' is a term used to describe the process by which a person is able to progress upward within a specialty or occupation by obtaining sequential blocks of preparation and experiences. Career lattices extend the ladder concept to include mobility across specialties or occupations, with credit and/or advanced standing given for prior learnings and demonstrated competency. Traditionally, each program has given what has been essentially terminal preparation that provided no advanced standing in a higher or parallel level program.

Cooperative efforts must be undertaken by the health practitioner associations to assess their established qualifications and standards that relate to upward mobility and performance within their professions and related occupations. Serious consideration should be given to a balance between experience and formal educational requirements for higher levels of responsibility. Demonstrated competency should be a primary criterion. Cooperation with educators is necessary to provide bases for selection of students and measures for predicting success. Currently, with the approval of the appropriate licensure board and concerned association, some programs are being revised to provide advanced standing.

Facilitation of career mobility must be explored and developed to attract and retain qualified personnel. Cooperation can be effected through working agreements and appropriate representation of public agencies on advisory committees or councils. Cooperation with state and local employment agencies and educational agencies is required in some funding arrangements.

Core Curriculum

Using an analytical approach, studies have determined performance requirements that are common across levels within specialties and across specialties. As existing curricula for health occupations education are revised and new ones developed, it appears that even more task, function and judgment commonalities will be identified. Additional studies are necessary to accurately define the dimensions of these commonalities, or "cores." On the basis of the dimensions identified, curriculum and instructional strategies must then be determined. Educational institutions, by incorporating the core approach at each of the educational levels, will gain greater benefits from available resources. In addition, the core curriculum approach in the learning experiences of health workers will improve the effectiveness of the team approach in the employment setting by developing appreciation and respect for other team members' roles and an increasing awareness of commonalities in team objectives. To date, too little attention has been given to interpersonal relationships among health team members. Preparation based on skills alone will not assure the type of communication and cooperation so fundamental to the team approach in the health services. The needs, attitudes, motivations and contributions of each team member must be understood and respected if quality health service is to be realized. Similar benefits have resulted when programs for different levels within a specialty were conducted by a faculty organized as a single team to prepare students at more than one level in the nursing and dental auxiliary specialties.

Policies and Requirements of Associations and Agencies

Voluntary associations, both educational and practitioner groups, play a major role in maintaining fixed structures and relationships in health occupations. Statutes for, and policies of, legal agencies such as licensure boards also tend to perpetuate the status quo. Since the health service industry is undergoing rapid change, each group must initiate and provide procedures for review of existing policies and guidelines. A more flexible, innovative approach is essential if individual and public resources are to be effectively utilized in meeting the needs of the health services.

Presently, many provisions exert unnecessary restrictions on utilization of personnel and on the operation of educational programs. Each professional and related association and agency must assist in the analysis of the actual performance requirements of practitioners in their own and related occupations. Based on these extensive analyses, reviews must be undertaken to identify and implement the necessary revisions in policies, requirements and role relationships. Team health care, team teaching, a core approach to curriculum development and career mobility, and meaningful sequential educational programs can evolve only with the assistance of the health associations and agencies. Review and clarification of positions, policies and roles in light of realistic performance requirements can make a major contribution to improving health services.

Recommendations:

1. Health occupations programs should seek additional resources for health occupations education students.
2. Students' needs must be considered in developing and implementing orientation and preparatory programs.
3. Health occupations programs should provide entry level preparation at the secondary level for potential drop-outs and for those who will not continue in post-high school programs.
4. Qualified personnel for all health occupations should be increased by providing occupational information, orientation, and exploration programs.
5. Educational programs, both secondary and post-secondary, should provide initial and continuing preparation as well as retraining for a wide range of people with varying abilities and interests in the health field.
6. Remedial, improvement and preparatory activities should be scheduled to meet the needs of students.
7. Articulation across levels and among programs should function to provide continuity, exchange, and career development.
8. Effort should be exerted to increase coordination among professional and supportive personnel to increase team effectiveness in health services.
9. Functioning of the health team should be enhanced by cooperative and joint activities within the preparatory programs.
10. Flexibility should be built into programs of recruitment and education to permit a wider range of individual options for those committed to a career in the health field.
11. Approval, accreditation, licensure and registration provisions and procedures should be restructured in light of actual performance requirements.
12. Employing institutions, state agencies, colleges and practitioner associations should cooperate in carrying out a continuing program of faculty preparation and improvement.

CHAPTER VI
COLLABORATIVE ROLES AND FUNCTIONS IN HEALTH OCCUPATIONS EDUCATION PROGRAMS

Guiding Statements:

1. **No single administrative authority exists for comprehensive planning, operating, and evaluating health occupations education programs; voluntary councils including all interests can provide the required coordination.**
2. **The local educational agency is in a position to provide initiative and direction in the development of a collaborative and cooperative approach to health occupations education.**
3. **Individual community health needs must be evaluated and programs developed in light of both those needs and the characteristics and trends at the state and national levels.**
4. **Economic, population, health personnel and health facility requirements usually make it necessary for an educational unit to develop cooperative and joint programs with other educational units and clinical facilities within and beyond community boundaries.**
5. **Advisory committees and councils are essential to health occupations education programs; membership must reflect the broad interests of the community as well as specialized health interests.**
6. **In providing health occupations education through the public school system, the trend is to require contractual agreements between health facilities and the schools.**

Coordination in planning, development, and operation of health occupations education programs is necessary to the maintenance of quality health services for all individuals and their communities. The ultimate objective of such coordination is a functioning system that provides education for all levels and types of health occupations. However, the present multiplicity of educational administrative units and districts, health facilities, legal agencies, and interested associations preclude any all-encompassing administrative structure or authority. Consequently, each school administrative district must give attention to developing comprehensive programs within its own jurisdiction and exert equal efforts to obtain articulation and cooperation among all concerned units. Achievement of such cooperation and coordination will be a difficult goal to achieve. Each local community will have to develop a coordinating structure best suited to its needs. Although the structures will differ, they are referred to in these **Guidelines** as a Local Comprehensive Health Occupations Coordinating Council.

All of the components and services of the health industry cited in earlier chapters co-exist with the educational system in the community. Both must bring their resources together to meet the needs that exist within the broad social and economic environment of the larger community. Many components and groups are of central concern to both health occupations education and the health industry. The public education system should become the major facilitating agent in developing personnel to provide health services.

In previous references, the terms "local" and "community" have been used interchangeably. A community is a socioeconomic region that is formed around a population center; for many purposes, an urban center and its surrounding service region is required. Typically, employment, marketing, and health service patterns exceed the boundaries of a specific city, county, or other governmental sub-unit. In some sparsely populated regions, the cooperation of two or more states will be necessary. Some health needs will be so highly specialized that they will be available in only one place in a state; very often, they will be associated with a large medical complex. The great majority of communities will not have an adequate base for complete health services. However, the individual community must take the initiative for health occupations education programs; national, state and area information and resources must be considered in all planning and development.

In the early stage of comprehensive planning, the broad structure of the state-wide system for health occupations education should be determined. Current findings and projected trends of population characteristics, financial resources, and specialty facilities must be taken into account when determining an overall plan. Each individual community can then proceed with a further assessment of its needs, resources, and planning strategies. Each administrative unit within the community, assisted by interested associations serving that community, can then define and develop its individual and cooperative roles. The special requirements and opportunities in the health

field, and the magnitude of the tasks to be accomplished, demand even more cooperation and coordination in planning and development than is usually necessary in other fields.

Within the framework of statewide and regional plans, the community must exert every effort to coordinate and develop its own plan in light of anticipated broader needs and developments. Such planning and development can only be accomplished through strong leadership, initiative, the pooling of resources and creation of cooperative relationships across traditional lines and identities. Communities must be concerned about the deficiencies in health personnel from area to area. Quality health service for all regions and areas is dependent upon planning and decision-making to assure adequate personnel and facilities for all areas, including the most populous as well as rural areas.

Figure 5 shows groups or units and the resources each may provide relative to research, planning, development, operation and evaluation; read across the Figure for each unit or group. Although the Figure indicates relatively discrete categories, it must be kept in mind that all elements, groups and activities interact dynamically and continuously. Research, planning, development and evaluation are continuous processes for both new and operating programs.

Formal agencies and associations, shown at the top of the Figure, have defined policies and bases of authority; however, successful community programs require the support of the informal and facilitating groups, organizations and structures. The organizational basis of the various groups may be either legal, formal association, appointed membership or ad hoc. Each group may be of assistance to the state, region, community or others in meeting their needs or objectives. The over-all goal must be a balance between health needs and services. Input and feedback is required among all concerned. No single unit at any level, whether legal or voluntary, has the authority or resources to develop an effective, comprehensive system for health services or the supporting health occupations education. Therefore, all appropriate groups, public and private, must voluntarily cooperate to develop a system for health occupations education. Effective communications are imperative; some mechanism must be established to coordinate activities of the various groups. Comprehensive health occupations coordinating councils have great potential for serving as this mechanism at the state and community levels.

Since no single agency has the authority to create such a council, it must be established on a voluntary basis. The objectives of each council member must be, at least in part, in common with the objectives of the council — the development of quality health occupations personnel. The council is responsible for developing its own organization, structure and procedures. Each will differ according to the needs and characteristics of the area to be served. Supervisors for health occupations education in the state vocational education offices and local vocational education administrators can provide leadership for such councils.

PLANNING ORGANIZATIONS AND APPROACHES

The state, through its sub-units, is the legal agent and primary authority in all planning, allocation of resources and regulation. It is also the agent that relates directly to the federal government. Sub-state and local governmental units have only that authority granted them by the state government, generally by legislative action. Governmental action is the ultimate reflection of the desires of the majority of the people; consequently, such action may significantly lag behind needs. Persons best informed concerning health needs must make these needs well known in order to gain the necessary public and governmental support to obtain the resources and policy changes required.

Effectiveness at the state level requires active coordination, possibly through a coordinating council. The most effective coordination at this level has come about through initiation and support of the governor's office. Delegating the responsibility for creating a state council to a lower governmental office will not likely gain the required cooperation and support. The governor's authority and prestige can bring about state agency involvement and gain support from private and voluntary groups. Such a council would not replace existing groups, many of which are successful, but would enhance the efforts of all through coordination and cooperation.

State Education Boards and Agencies

The legal responsibility for the operation of the public elementary and secondary schools and higher education institutions rests with the state. To meet this obligation, the states have delegated responsibility in several patterns. Providing continuity and smooth articulation across the various educational levels has proven difficult in most states. Separate boards or agencies usually exist for the common schools — elementary through grade 12 — and for community colleges and/or higher education. Policies and approaches must be implemented to gain the greatest use of resources and to provide the greatest opportunities for all students. Each institution or legal administrative unit must plan in coordination with all other units serving the community.

Board for Vocational Education

The state board for vocational education in each state is the legal agent for receiving and administering federal vocational funds. Current vocational education legislation requires that monies must be used for youth in high school, post-high school students, and adults; consequently, the state board for vocational education must work with other boards and is in a particularly advantageous position to facilitate articulation and the development of joint programs within and among institutions. Each state board for vocational education has a number of services that are available to area and local schools. Included are:

research coordinating unit: This unit is the research unit of the board and may conduct or sponsor surveys, research and development activities and provide demonstration projects, as well as serve a clearinghouse function for information from other sources.

teacher education services: As a condition for receiving and expending money for occupational education programs, teacher education activities (such as short-term technical workshops and institutes as well as pre- and in-services education for teachers, counselors and administrators) must be sponsored. Establishes standards for and approves instructional personnel.

state supervision for health occupations: In all states one or more consultants or supervisors for health occupations programs are employed. They establish program standards and serve as a primary source of information.

guidance services: With the new provisions and requirements in the 1968 Amendments, staff in each state office provides consultation in development of vocational guidance and exploration activities for the elementary through the post-high school levels.

curriculum and instructional materials: Materials are obtained, developed and provided as a resource for assistance to all vocational programs.

Area or Local Educational Agencies and Programs

An increasing number of educational administrative units, at both the secondary and post-secondary levels, are being consolidated to serve larger areas, thus gaining a broader base for operation. At the same time, the number and types of health occupations education programs are increasing. Many programs can be offered by either the high school or post-high school institution. Coordination and articulation are essential to making optimal use of resources and to providing educational opportunities for all persons. Structures for gaining coordination among all institutions, and their activities, must be implemented.

Activities that may be involved in such relationships include:

preparatory programs that start in the secondary school and continue to completion at a post-high school institution;

enrollment of selected secondary students in post-high school programs with credit given toward high school graduation requirements;

advanced standing in post-secondary programs for competencies gained through secondary-level programs or actual work experience;

staff members on cooperative or joint appointment at secondary and post-secondary institutions;

use of common facilities, such as counseling rooms and classrooms at the clinical facility, by both secondary and post-secondary programs;

use of secondary school facilities by the post-secondary institution on an exchange or rental basis to bring educational opportunities to adults in the region of the secondary school;

exchange programs among institutions where the population or clinical facilities may be inadequate for some programs and where the location of others may be inaccessible or difficult;

use of joint advisory committees for health occupations education by the various educational institutions serving the community;

awarding credits and diplomas, by each institution, in a manner that meets requirements for the next level programs;

involvement of students enrolled in post-high school programs in occupational exploration and ormation activities for elementary and secondary school students;

joint and coordinated guidance and adult education programs.

State Health Agencies and Services

Each state has a number of departments each of which is responsible for administering policies and services in an area. Some of those most directly concerned include the following, although the titles, activities and organization may differ from state to state:

Figure 5
Collaborative Roles and Functions In Health Occupations Education Programs

FORMAL GROUPS AND AGENCIES	RESEARCH	PLANNING	DEVELOPMENT	OPERATION	EVALUATION
EDUC. AGENCIES Federal: State: Local:	Needs-Performance Research Coordination Needs-Students-Employers	Funds-Guidelines Funds-Consult.-Coord. Funds-Initiative-Communication	Funds-Guidelines Funds-Consult. Coord. Funds-Identify Resources	Funds-Guidelines Funds-Standards Funds and Community Support	Program vs. Needs Program Review Employers and Students
LEGAL AGENCIES Federal: State: Local:	Funds-Needs Data Standards Standards-Needs	Funds-Information Standards-Consult. Consult. Cooperation	Funds-Information Program Approval Cooperation-Resources	Funds-Information Pgm. Approv. & Review Cooperation-Resources	Approval for Funds Licensure-Approval Approval-Employment
PRACTITIONER ASS'N. National: State or Regional: Local:	Data-Guidelines Data-Guidelines Obta nformation	Standards-Guidelines Advisory-Information Advisory-Information	Resources-Guidelines Advisory-Information Advisory-Resources	Consultation Program Approval Staff & Advisory	Approval-Accredit. Approv.-Membership Recom.-Performance
OPERATIONAL UNITS Health Facility: Health Agency: Manpower Agency:	Needs-Performance Needs-Changes Data-Projections	Resources-Cooperation Resources-Cooperation Data-Projections	Resources-Cooperation Resources-Cooperation Funds-Guidelines	Clinical Affiliation Resources-Approval Funds-Referrals	Performance-Empl'nt Performance at Grad. Employment

STATE AGENCIES AND GROUPS

Legal and Governmental

State Board for Vocational Education
State Advisory Council for Vocational Education
State Departments of Public and Mental Health
Licensure Boards
State Employment Service
Boards for Education: Elementary/Secondary, Community College, University

Planning and Voluntary

Comprehensive Health Planning Council
Comprehensive Area Manpower Planning Service
Economic Opportunity Councils
Regional Medical Programs
Practitioner Associations
Health Careers Councils

PROVIDES: Information and data, consultation and guidance, funds, guidelines and standards, referrals and contacts, curriculum essentials, performance requirements and standards, approval, and coordination of resources and groups.

FACILITATION AGENTS: State Director of Vocational Education and State Supervisor of Health Occupations Education

LOCAL OR COMMUNITY

Individuals and Citizen Interest Groups: Rotary, Kiwanis, employee groups, civic groups, associations for commerce, parents, etc.

Health Related Interest Groups, as: Red Cross, Heart Association, Cancer Society, hospital lay groups, and local associations for mental health, nursing, handicapped, medicine, health planning.

Boards and Advisory Committees, for: secondary schools, technical institutes, community colleges, health occupations programs and specialty courses.

PROVIDES: Local surveys, information concerning needs, assistance with curriculum, public support, dissemination of information, recruitment of students and staff, placement of graduates.

FACILITATING AGENT: Local Director of Vocation Education - Dean of Occupational Education

LOCAL COMPREHENSIVE HEALTH OCCUPATIONS COORDINATING COUNCIL

PROVIDES: Coordination and advisory activities, leadership, seeks support for and gives assistance to health occupations programs.

Health Departments: Public health and mental health state and regional offices carry out a number of services, including approval of many health facilities and services. These departments can provide:

information and data on current and projected needs and facilities; guidelines and standards for some programs and practitioners; advisory and resource information on personnel, employment opportunities for graduates, and, in some cases, financial resources.

A single office to answer or to refer inquiries concerning all of the above has been effective in some states.

Licensure Boards: A single agency or board, or a board for each licensed occupation, exists in each state to issue licenses to those practitioners for whom licensure is required. Preparatory programs in a licensed specialty must have approval of the appropriate licensure board. Each board can provide guidelines and regulations concerning:

student characteristics, clinical affiliation, faculty qualifications, curriculum and schedules, advisory and consultative services, needs and trends data for the field, and locations of existing programs.

Representatives of the appropriate licensure board should be involved at all stages of program planning and implementation.

Health occupations programs require collaboration among the educational institutions, licensing boards, health facilities and health practitioner associations. Their joint responsibilities extend into many phases of operation and include selection of students, evaluation of programs and students, development of curricula, and placement and evaluation of graduates.

ADVISORY COMMITTEES AND COUNCILS

A coordinating council is defined as an ad hoc group formed to facilitate exchange among other units with a common interest; it develops its own guidelines and operating procedures. Such a council is necessary to gain information and facilitate operation among the many agencies, associations, and groups serving a community. An advisory committee, on the other hand, is a group of people appointed by an official agency or institution for a particular purpose and which reports back to the appointing authority. There are two types of advisory committees: general and specific. Advisory committees may be organized according to the extent of the program for which they are to serve. For example, a general advisory committee, often known as a citizen's education committee, may serve an entire administrative school district. Within the same school district, another general advisory committee may be established for the total program of health occupations education, and a specific advisory committee for each program; such as one each for nursing, medical laboratory, physical therapy, etc.

It is desirable to have one or more members of each specific advisory committee serve on the general advisory committee. Similarly, one or more members of the health occupations advisory committee should serve on the general advisory committee for all vocational and technical education. Finally, representatives from the vocational and technical advisory committee should serve on the general citizen's education committee. (A parallel pattern of advisory committees would exist for each of the other occupational fields in vocational and technical education.)

Each of several education agencies in the same community may establish a series of advisory committees seeking committee members from the same health groups and facilities. Further, health facilities and agencies may have their own advisory committees and councils. Lacking close coordination and joint activity, energies may be fragmented and the result may be serious gaps among levels, institutions, programs, and groups. Therefore, a coordinating structure must be developed to serve a community according to the needs, resources and nature of the community. The coordinating council can serve as the mechanism to gain coordination among all concerned institutions and, at the same time, provide continuity across and among specialties.

Composition and Role of Advisory Committees

When establishing an advisory committee, it must be made clear to all concerned that it functions in an advisory capacity only. It does not have an administrative function. The operating agencies and institutions cannot relinquish their responsibility or authority for the direct control of programs under their jurisdiction. Appointments to advisory committees are made by, or under the authority of, a controlling board or chief administrative officer. The authority making the appointment also determines the office to which the committee reports its findings and makes recommendations.

If a committee member is to represent an agency or organized group, a request must be sent directly to the group to be represented; choice of the representative is the prerogative of that group. Prior discussions and working relations with that group are invaluable in identifying individuals who may

best serve. Figure 5 shows examples of the type of representation found to be beneficial on advisory committees. Memberships should include representatives from:

health professions and their associations;

educational institutions;

health facilities;

health interest groups;

citizen's interest and civic groups;

health and related agencies.

Qualifications of Committee Members: Selection of individual members should be based on their demonstrated interests and capabilities. Guidelines to be used in selection include:

interest in the problems of the health field and their educational programs;
demonstrated competency in their specialty and the respect of others in that specialty;
time to devote to the work of the committee;
freedom from personal benefit from committee work;
ability to work with others.

Size and Organization of Advisory Committees: The size of each advisory committee will vary with the scope of the educational system, whether it is general or specific in character, and the objectives of the committee. The specific committee will be small. As the committee's scope broadens, the size will necessarily increase as wider representation of interests will be needed. In general, five members on a specific committee and twelve to twenty members on a general committee prove most efficient. The institution appointing the advisory committee should in most cases have a representative on the committee in an ex officio capacity. Each committee must have rules and policies by which to operate; these should be as few as possible but include:

time and length of meeting;

method of notifying members of meetings;

method of calling special meetings;

method of developing agenda for meetings;

appointing or electing officers;

establishing terms of office and membership;

establishing by-laws and other operating procedures.

Functions of Advisory Committees: Because committees are advisory to educational programs, they must help coordinate activities among employing institutions, facilities, and the educational institution. The collaborative roles outlined in Chapter II are relative to these committees. Specific functions may include:

serve as liaison among the educational programs and the community;
review goals and objectives of the program;
make recommendations regarding education standards and instructional facilities;
help obtain and serve as a resource for the instructional staff;
assist in recruitment of students and placement of graduates;
assist with continuous evaluation of the educational program; and
help in identifying and creating job opportunities for trainees.

Coordination of Local Health Occupations Education

The formation of the local coordinating group or council must be a voluntary activity, since no single agency has comprehensive jurisdiction. The council should provide for representation of all appropriate groups and interests, formal and informal, to serve the needs of the total community. Advisory committees and their appointing authorities should be represented. Membership should also include: manpower agencies and groups, consumers, local planning groups, guidance personnel, civic and government agencies.

Functions of a Local Coordinating Council: The collaborative roles outlined in Chapter IV are also relative to these councils. All actions are advisory. Functions of the council may include:

develop or become familiar with the existing planning for comprehensive health services;

determine, by priority, the health problems of the community;

form and carry out strategies for meeting health needs by supporting and assisting action programs, and by developing and coordinating links between existing institutions and programs;

develop guidelines for reviewing programs and proposals, and for determining the priorities for expanded or new health facilities and services;

provide information that will assist institutions and agencies, neighborhood groups and commu-

nities in decision-making in relation to health matters;

work cooperatively with local groups in providing information to the public on the needs for health services and health occupation education programs.

COMMUNITY RESOURCES AND PROGRAM PLANNING

Health occupations education programs must be planned in light of assessed community needs and characteristics, trends and conditions in the state and region. National and state data, as well as local studies and surveys, must be used in planning and decision-making. The feasibility of preparing personnel will depend on needs, the size and type of community and the availability of adequate faculty, clinical facilities and recruits. In many cases, an individual community will have to cooperate with one or more other communities to develop quality programs.

Population and Personnel

An assessment of the population characteristics and trends will give an indication of which age groups in a community need particular attention and the types of programs needed to enhance their employability. It will also show whether the community is retaining, losing or gaining workers. Consideration should be given to the education, employment and mobility patterns of young persons. Are they completing school? Are they continuing their education locally or elsewhere?

Particular attention must be given to the availability of and the need for additional health personnel. From what sources are prepared personnel obtained? Are those prepared in the community remaining in the community? Are employers in the health field obtaining and retaining personnel? If not, why?

Changes in needs generally can be attributed to population shifts, economic factors, expanding facilities and services and new divisions of labor. Personnel and program needs may be of short- or long-term duration.

Short-term Personnel Needs: These may be classified as those for which the area or institutions have an acute need, a need that can be alleviated by further preparation of existing employees or through recruitment of personnel from outside the community. Short-term needs usually involve upgrading or replacement attempts, but once the need is met, it would not likely recur regularly.

Long-term Personnel Needs: These personnel needs would be in those health occupations for which there will be a continuing need. Expansion of facilities, increased performance demands on workers, retirements, replacement and mobility all suggest that on-going programs should be available in the community or shared by several communities.

Short-term Program Needs: Some employment positions require only a short training period. Such training programs would include retraining of those prepared for entry level but needing to acquire additional skills for advancement or reassignment. This could be accomplished through in-service programs. Also, short-term preparation is offered in formal health occupations programs requiring a few weeks or months to complete; for example, the training of aides.

Long-term Program Needs: These are those health occupations that require preparation of at least a year in length. While short-term needs may be met with specialized, one-time programs, long-term needs may require significant planning and investment. The focus of planning must be on the qualifications the person is to have upon completion of the program. Selection criteria for students, or programs, may have to be adjusted in relation to the existing short- or long-term needs.

Selection and Recruitment of Students

Qualifications such as age and educational background are usually established by the appropriate professional associations and licensure agencies; also, admission procedures are often influenced by these groups. For example, selection tests for some specific occupational programs have been developed. While minimum admission qualifications are sometimes established, research tends to support the view that many programs select students with higher ability than is necessary for competency in the area. Such practice is tantamount to increasing the underutilization of health personnel; it may also contribute to the dissatisfaction of workers later in their careers. A concomitant factor not to be overlooked is the denial of opportunity to an idividual for whom a given level of preparation could provide appropriate utilization of skills and ability. Under the present scheme, an individual is locked into a position even though capable of a much higher level of performance; his only recourse is to start again.

Selection criteria become extremely important when there are more applicants than openings available in a program. When there are several levels of health occupations education programs within the same educational institution, an applicant can be more effectively guided to a program commensurate with his abilities, interests and time, and in light of the over-all health needs of the community. Similarly, drop-outs from one program may be considered for

another program within the same institution, or referred to programs in other locations.

Educational Programs and Clinical Facilities

Essentially, all health occupations programs require that a portion of the training take place in a clinical setting. The determination of clinical experience areas will vary according to occupation, regulations for approved programs, and willingness of clinical facilities to cooperate. Some facilities are limited by the nature of their specific purpose or by the extent of their services. Availability of adequate clinical affiliations is often a limiting factor in establishing and operating programs. The American Hospital Association has developed a **Statement on the Role and Responsibilities of the Hospital in Providing Clinical Facilities for a Collaborative Educational Program in the Health Field.** The clinical facility must face the dual criteria of quality education and protection of the patient or services.

Agreements Between Agencies: Formalized agreements are highly recommended. Regulations within the various states will outline whether these agreements are mandatory. Recommended requirements for agreements between the controlling education institution and the cooperating clinical facility include:

cooperative and joint development of the agreement;

beginning and terminal dates of the contract and methods for renewal and termination;

provision for termination of the agreement, particularly the length of notice that must be given;

annual review by both parties;

elaboration of the responsibilities and authority of each party;

assurance that the controlling institution has full responsibility for the students' learning experience;

statement that responsibility for selection and supervision of students' learning experiences and for appointment of faculty members rests with the controlling institution;

provisions for coordinated planning between faculty of the program and representatives of the clinical facility;

definition of the types and length of learning experiences to be provided by the clinical facility;

determination of facilities and services available at the clinical facility such as: classrooms, laboratories, library facilties, offices, conference rooms, and dressing and locker room space. They may also provide equipment and supplies, health care for students, dining room privileges, etc.;

assurance that the controlling institution will observe policies and procedures relative to patient care, legal considerations and safety established by the clinical facility; maintain equipment, supplies and facilities made available by the clinical facility; and assume the responsibility for the attitudes and performance of the students. They may provide financial reimbursement for facilities and services; and,

bases for evaluation of the agreement and program.

Decision-making in Health Occupations Education Programs

During and following the planning and assessment activities, the administrative units, advising committees and councils will be called upon to make decisions; many decisions will have to be made without adequate information. When making changes or trying out new approaches, these should be clearly identified as experimental, until adequate information is available for evaluation.

Continuous evaluation procedures should be developed at the time program objectives are established. To maintain currency and quality performance of the graduates, in-process, end-of-training and follow-up evaluation procedures can provide valuable information for program modification and improvement. Graduate employees, employers, health agencies and associations can also provide meaningful feedback information.

Increased numbers of needed personnel may be gained without initiating new programs. New and existing needs may be met by expanding present programs through enlarging classes or initiating intermediate classes. Classes starting at mid-year may attract additional students and result in better utilization of faculty and clinical facilities. When two or more programs for the same specialty are in operation in a community, combining the programs may be another means to greater efficiency. Refresher programs for those who may not have practiced in their specialty for some time have been successful. In-service education programs to upgrade employees can be advantageous to the employer and community. Cooperative programs — when students spend part-time in school and part-time in supervised employment while under the direction of the school staff — may be used by both secondary and post-secondary institutions.

Many health occupations workers are presently prepared in private institutions, often health service facilities. Generally, these programs were established to assure an adequate supply of workers for the sponsoring institution. In some instances, health facilities have found it preferable to transfer their program to an educational institution and, through cooperative agreements, make it possible for the educational institution to enlarge its enrollment to meet the community needs.

Single communities, particularly those in less populous areas, will not always be able to support and conduct health occupations education programs because of a small number of potential students, lack of prepared faculty, inadequate clinical affiliations or a weak economic base. They may find it desirable to contract with another educational district, or private unit, for educational services. Area vocational and technical schools provide one possible way through which students in an area may have a wider choice of health occupations programs available to them. At the same time, the smaller district may be assured of a greater number of qualified personnel prepared in a wider range of health occupations.

Instructional Staff

The success of any educational program rests with the quality of its faculty. The key faculty member of each specialty program is the coordinator, or lead instructor, who holds the primary responsibility for establishing, operating and evaluating the program and for the relationships with clinical facilities, employers, health associations and the public. When developing a new program, the coordinator should be employed and working on program objectives, curricula and implementation several months prior to the opening of the program. Other faculty members must also be employed and on-the-job well in advance of the opening date. If adequate faculty cannot be obtained, the opening of the program should be delayed. Some communities have found it desirable to sponsor local potential faculty members in advanced educational programs to qualify them for leadership positions in their local health occupations education programs.

Curriculum and Instructional Sequencing

In the past, many programs were divided into a full-time classroom phase followed by a full-time clinical experience phase. Today, most programs are presenting integrated classroom and clinical learning experiences. Approval agencies and health practitioner associations often provide guidelines concerning instructional sequencing. They often stipulate that classroom and clinical experiences be presented concurrently. Guidelines regarding sequencing and specifications of learning experiences rarely specify materials or instructional techniques to be used in the classroom, laboratory and clinical experiences. Development of the curriculum and teaching strategies are the responsibility of the faculty; however, involvement of health practitioners and associations and health facility personnel will enhance and strengthen the students' learning experiences.

Recommendations:

1. **State boards for vocational education should provide leadership in developing coordination, articulation and cooperation among educational units concerned with health occupations education.**
2. **For effective local planning, there should be early involvement of state agencies responsible for, or concerned with, manpower, health, and education.**
3. **Short- and long-term planning for comprehensive community health occupations education programs should be undertaken in light of findings from careful assessment of needs, potential students, existing programs and health facilities and similar characteristics and trends at the state and national levels.**
4. **Advisory committees and councils made up of representatives from all groups concerned with health and education should be organized and active.**
5. **There must be adequate qualified faculty available to develop, operate, and evaluate health occupations education programs.**
6. **Well-defined relationships should be developed between the educational institution and clinical affiliates for achievement of the educational objectives.**

CHAPTER VII
COMPREHENSIVE PROGRAMS IN HEALTH OCCUPATIONS EDUCATION

Guiding Statements:

1. **Occupational choice and career development is a continuous activity; each person starts his own pattern in his early years.**
2. **The public school has the major role in enhancing each individual's occupational opportunities as a part of his development in becoming a productive and contributing member of society.**
3. **To assure occupational options, each individual not only must be aware of vocational opportunities but must also be able to obtain preparation for entering the occupation.**
4. **Participation in educational activities has become a life-long activity; programs for preparation, upgrading, retraining and maintenance of competencies are required at all performance levels.**
5. **Comprehensive programs in health occupations education require continuous interrelationships among all levels of education, health specialties and services, and health agencies and associations.**

Society is becoming increasingly complex as a result of technologic, economic and social forces. The rate of change is such that adjustments and modifications by the individual must be continuous. He is faced with a seemingly insurmountable task of obtaining adequate information and understanding of his highly specialized, but interrelated, surroundings. To make intelligent decisions, he must depend on assistance from those institutions and services provided by society. He has increasing needs for more extensive general education and adequate specialized education to assure vocational success. Occupational preparation and progress can no longer be left to chance and the "pick-up" method. Many adults, though they may have completed considerable general education, cannot find a place in the world of work; they must be provided with occupational opportunity and hope. A comprehensive system of education, comprised of integrated general and vocational education, appears to offer the most promise for the future.

There are commonalities between the health industry and the traditional public education system. Neither has met the needs of the majority of the people. Persons seeking services have had to accept those provided; and specialized services, medical or educational, were available only to those who could afford private sources. Traditional practices are not meeting present needs. A meaningful, functioning system bringing together the health industry and public education must be developed to provide programs in health occupations education; such an alliance holds great promise for meeting the needs of both.

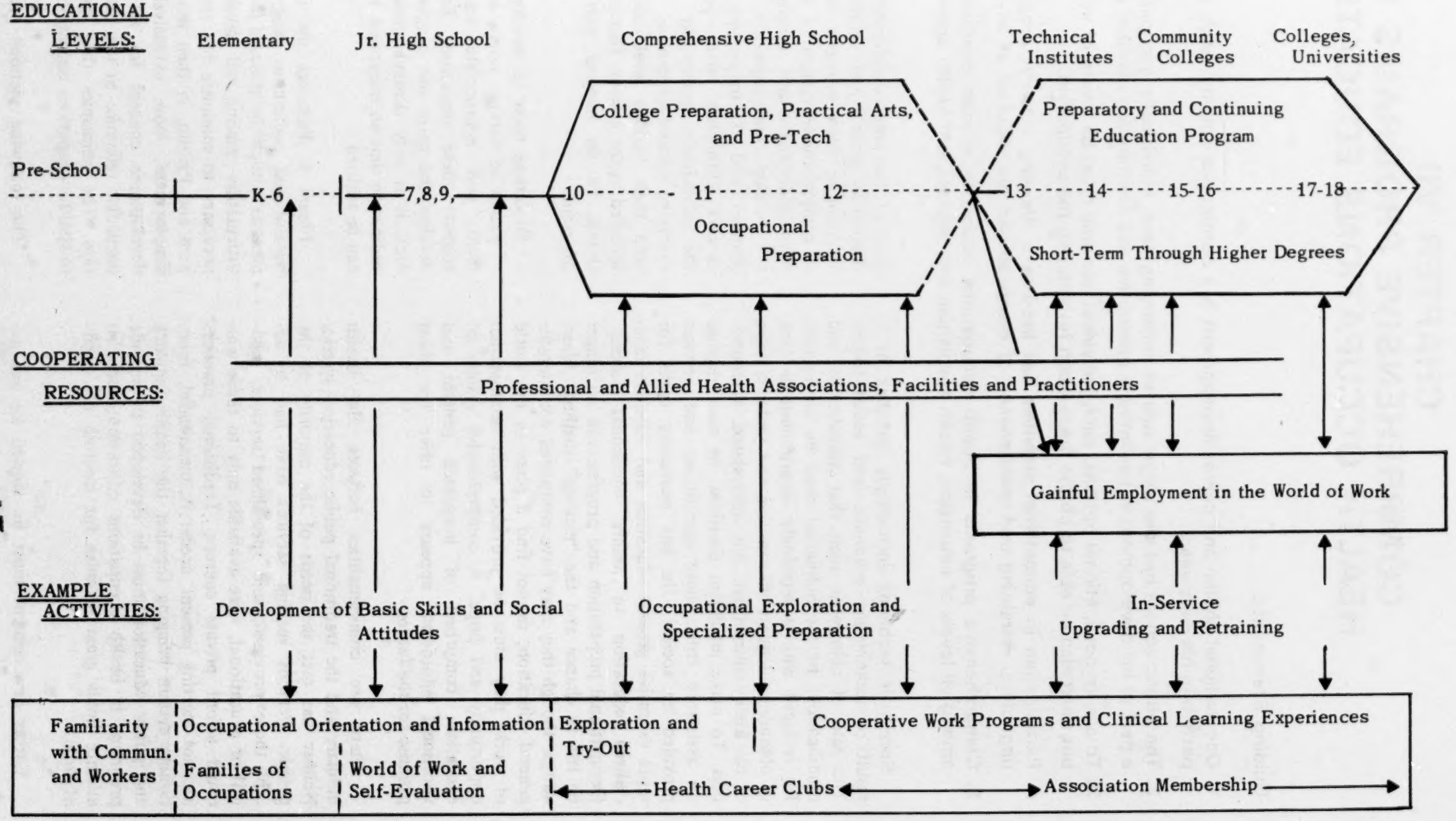
Career development must be viewed as one aspect of the total development of each individual. Therefore, general and vocational education become inseparable; each provides relevance for the other. A comprehensive system of education must provide each individual with continuing opportunities to (1) develop, and capitalize on, his interests and abilities; and (2) to explore a variety of possible careers. Ultimately, these provisions will enhance the individual's opportunity to make realistic and satisfying vocational choices. All occupational fields, with their various levels and specialties, must be included in the system. Health occupations education should be an integral part of a comprehensive program.

Objectives must be developed to meet the needs of people at various stages of their career development, and appropriate learning activities must support these objectives. Educational units must develop and carry out programs at all levels; however, it is only through close cooperation and coordination that an integrated and continuous program can be realized.

Figure 6 illustrates the concept of a comprehensive and continuous program of career development as it might be achieved in the health occupations; articulation among all levels and institutions is necessary to minimize the transitions. Evans, Mangum and Pragan, in their monograph **Education for Employment**, more extensively present the career development concept for all education and make particular reference to the role of vocational education. The principles they present are appropriate to health occupations education.

The following sections present, in outline form,

Figure 6
Educational Provisions for Career Development in Health Occupations



a comprehensive health occupations program as it relates to the total education system. The program extends from the elementary grades through the adult years. The educational system is responsible for the program, but in all cases the professional and allied health associations, facilities and practitioners must function as cooperating resources.

ELEMENTARY GRADES

As cited earlier, children begin to form generalized images of, and preferences for, occupations at an early age. These images are based on their experiences and the context in which these experiences take place. Familiarity with the community and its workers can give relevance to academic and social development. Occupational education should begin in the elementary schools to familiarize the student with the world in which he lives and to provide him with the intellectual tools and rational habits to play a satisfying role in it.

Activities and information concerning the world of work should be developed as an inherent part of the educational experiences of all students. In the lower grades, the information and activities are quite general; depth is developed, and distinctions are made in later grades. Experiences may be organized around "families" of occupations or services.

The educational program must be organized so that each aspect supports and relates to all others. The school must utilize a team of staff members who, with the assistance of outside resources and persons from the occupational fields, will develop the programs and supporting materials. This team, which supports classroom teachers, should include persons from guidance, curriculum and instructional media. Local programs will have to draw heavily from materials developed by others and then modify and supplement them for their own community. Visits to selected community locations plus classroom involvement of workers from the community will make the learning experiences more meaningful.

JUNIOR HIGH SCHOOL

At the junior high school level, occupational information should reach the degree of sophistication that enables the student to begin making decisions concerning occupational choices. The objectives for the student at this level include: economic orientation to the industrial and service systems, exposure to the full range of occupational choices that may be available in his future, and self-evaluation of interests and abilities in relation to occupational requirements.

Exploratory experiences, both in school laboratories and in the community, are preliminary to actual job try-out experiences. Some schools have established exploratory laboratories in each of the major occupational fields; industrial, home-making, business, agriculture, health, marketing-distribution, and personal and public services. As introductory experiences in these schools, all students in the ninth or tenth grades rotate through a selected number, or all, of the experience areas. The following year they may elect to gain more extensive experience in one or two areas.

A team approach similar to that at the elementary level should be continued at this level, but more extensive involvement is required of the cooperating resources, personnel and programs. Persons representing each of the occupational fields will be members of the team and direct exploration activities in their area of specialization.

HIGH SCHOOL

At this level, programs and activities are a continuation of those in the earlier years, but become more specialized and differentiated according to the needs, abilities, interests and plans for the future of each student. With or without his awareness, it is at this level that a student makes decisions concerning his occupational choice and future employment. Each student should obtain the prerequisites for: (1) entry to future education programs and (2) entry level competency in an occupational field of his choice.

Occupational exploration and try-out should become more specific in high school, but students should not be limited to one specific occupation. Learning experiences should be designed around "clusters," or "families," of occupations and industries, such as the health occupations field with its various specialties. While occupational orientation programs should be available for all students regardless of the curriculum they are pursuing, preparatory programs should also be offered.

Studies have shown that although a majority of students in high school follow a college preparatory curriculum and expect to complete college, only about 20% of all youth actually obtain a baccalaureate degree. Therefore, most students should acquire an entry level competency in some occupational cluster by the time they graduate or leave high school. Inclusion of vocational courses and obtaining an entry level skill in the high school should not, and most often does not, prevent progress of the competent student who wishes to pursue a post-secondary or college curriculum.

While the core of all high school curricula is com-

prised of general education content and courses, greater relevance and meaning can be gained for both general and vocational education through coordinated planning and operation. In addition to the occupational orientation for all students and a college preparatory curriculum, two other program sequences must be available in the comprehensive high school: (1) those providing preparation for occupational entry, and (2) those providing preparation for entry into post-high school vocational or technical programs. For smaller schools to make such opportunities available to their students, it will be necessary for them to combine with or form joint arrangements with other schools.

Preparation Programs for Occupational Entry

The major purpose of these programs is to provide experiences so that the students, upon completion of high school, will have sufficient competency to obtain and perform adequately in at least a lower level entry job. In the health field, this would usually be at the aide level. Requirements for, and the availability of, specialized facilities and learning activities will determine whether or not preparation for entry level competency can be developed. Most health occupations require that some of the learning experiences be obtained at a cooperating clinical facility.

There are basically three types of preparatory programs operated at the high school level:

core or cluster programs — students participate in both classroom and clinical locations. They generally rotate across a number of specialty areas so that they may gain general competencies in the health field and enough entry level skills for one or more areas.

part-time cooperative programs — students participate in a "related" health occupations class and supervised clinical experiences under the direction of a coordinator. Individual students in the class have chosen a more specific health occupation and spend approximately one-half of each school day at a cooperating clinical learning station under the supervision of an approved practitioner-teacher.

self contained programs — programs for some areas, such as medical and dental office personnel, may be operated within the school program. Special courses, appropriate to the occupation are taught by full- or part-time faculty members experienced in the specialty. Other programs, such as practical nursing, are offered as an organized program under the direction of an approved faculty. Organized clinical experiences are a part of the program.

Cooperative programs between the school and employer-trainers have been successful in providing occupational preparation. The work setting provides the student with a clearer understanding of the clusters of occupations and a more realistic evaluation of the levels of skill required. All learning experiences must be under the close direction of the school faculty and be appropriate to the interests of the individual student.

High School Programs to Prepare for Post-High School Technical Programs

As more post-high school technical programs become available and recognized, more people will plan to enroll. Occupational orientation and exploration activities can assist greatly in the making of this decision. The secondary school may offer appropriate clusters of preparatory courses in conjunction with exploration activities; especially designed science, psychology and mathematics courses may be appropriate. As such programs develop, it will be desirable for arrangements to be made whereby students may begin the first part of a program in the secondary school and continue to completion of the program at a post-high school institution.

POST-HIGH SCHOOL

Health occupations education programs are offered by most of the several types of post-high school institutions that have been established. Providing employment opportunities for all members of a community largely depends on the concern, initiative and innovation of those responsible for programs in the community colleges, technical institutes and area vocational centers. Federal vocational education funds may be used for health occupations education programs in each of these institutions. All communities have a need for a wide range of programs offered on a flexible basis. Two-year preparatory associate degree programs as a base for occupational entry into some occupations are becoming widespread. However, they are only one of the many types of programs needed. Short-term programs for entry, upgrading, retraining and refresher purposes are needed on a continuing basis. Credit and non-credit remedial and personal improvement programs are also needed.

Four-year and graduate institutions have a major obligation to provide leadership to the total field. An increasing number of practitioners will need the opportunity to enter these senior institutions with advanced standing based on prior education and experience. Services and support from these institutions are needed to prepare faculty and staff for both education and the health fields. Preparatory, in-service and continuing education programs for all levels and specialties will be required as well as research and curriculum development for both basic and applied areas. Many activities can best be carried out cooperatively by institutions at two or more levels.

Recommendations:

1. Comprehensive health occupations education programs should be initiated within the total educational system of each community, or cooperating group of communities.
2. Each school within the system, from elementary through the senior college, should establish an intradisciplinary team to develop programs for occupational information, exploration and preparation.
3. Each system and school should appoint a person to be responsible for health occupations education whose efforts are focused on providing leadership in the field.
4. Collaborative activities among guidance personnel, educators, health associations, practitioners and clinical facilities are basic to successful health occupations education activities.
5. Means should be developed to facilitate smooth transition of students between educational levels and across health areas.
6. Materials and suggested activities for use in local health occupations information, exploration and preparatory programs should be identified, developed and made available by state and national sources.

APPENDIX A

PLANNING AND FUNDING RESOURCES

The State Departments of Vocational and Technical Education, in cooperation with the Division of Vocational and Technical Education, U.S. Office of Education are the primary and most directly concerned planning agencies. In addition, the following agencies and services provide assistance.

U.S. Public Health Service (General)

Within the Public Health Service, several units, particularly the National Center for Health Statistics, devote extensive efforts to assessing and reporting the conditions of the nation's health, health manpower, and health services. Other units devote their efforts to selected aspects of the health field.

The Bureau of Health Professions Education and Manpower Training through their Divisions for Allied Health, Dental Health, Nursing, and Physician Manpower, and for Educational Services conduct and sponsor research, educational programs, curriculum development and related activities. Support is usually limited to those programs which require two or more years of preparation.

Regional Medical Programs Service, USPHS

Provisions of the Heart Diseases, Cancer and Stroke Act, and its amendments have led to the establishment of a federal funding unit and fifty-five regional operational programs. Regional program jurisdictions are not always consistent with state boundaries, but the entire nation is provided with programming. Each region develops its own program within the federal guidelines; activities include assessment and planning, initiation of projects, expansion of services and facilities, and continuing education activities, often through joint sponsorship with other groups or institutions.

Comprehensive Health Planning Councils, USPHS

In an attempt to improve coordination and to gain efficiency in the utilization of some categories of funds, including the Hill-Burton hospital construction funds, the federal laws require that each state establish or designate a state agency, often the State Health Department, to coordinate planning. In turn, area planning councils must be established which include representation of local groups and individuals.

Institutional Assistance and Student Aid—USPHS

The Public Health Service in the Department of Health, Education and Welfare has programs which may provide grants for facilities, student loans, program improvement, and scholarships.

The Health Professions Educational Assistance Act, the Nurse Training Act, and the Allied Health Professions Personnel Training Act and their amendments provide grants to institutions for scholarships to needy students. Also, the Health Amendments Act of 1956 and amendments of the Nurse Training Act of 1964 provide grants for traineeships to nurses preparing to be administrators, supervisors, teachers, and specialists.

The Allied Health Professions Training Act of 1966 and amendments provide grants for the construction of new, expanded or improved teaching facilities, improvement of educational programs, curriculum development and traineeships for advanced training of individuals. Grants may or may not require matching of funds. Funds administered through the Bureau of Health Manpower Professions and Training can be used in accreditated educational institutions to prepare professionals and allied professionals at the community college, baccalaureate and graduate levels. In most cases, funds are granted to educational institutions; individuals must apply to grantee institutions for individual assistance.

The National Mental Health Act may provide for teaching costs and student stipends for graduate and under-graduate training projects.

Comprehensive health planning councils may provide project aid to public and nonprofit agencies for cost of training studies and demonstrations. The fifty-five Regional Medical Programs conduct and provide support for continuing education on a limited basis.

Other Programs Under the Office of Education

The Higher Education Act of 1963, and its amendments, authorized funds for construction of higher education facilities, support of low-cost, long-term and insured loans to students, scholarships to needy students, and part-time employment for students through the college work-study program. A part of the funds must be used for community colleges and technical institutes. The funds are allocated to an approved state agency, most often a board for higher education. Priorities and guidelines are established by the state agency which, in turn, makes allocations to individual institutions. Individuals must apply to an approved institution for loans or assistance.

The Adult Basic Education Act, generally administered by the state department of education, provides resources to develop basic literacy and "three R" competencies. These remedial programs then permit individuals to enter programs to become prepared for employment.

The National Vocational Student Loan Insurance Act of 1965 and its amendments provide funds for low-cost loans to students. Institutions must request allocations which are made available to individuals.

The Education Professions Development Act and related provisions in other Acts are administered by the Educational Personnel Development Unit which makes studies, provides support and gives leadership to the development of professional personnel, including health occupations education.

The Bureau of Education for the Handicapped administers programs and studies concerned with handicapped students.

Social and Rehabilitation Service —
Department of Health, Education and Welfare

Under the Social Security Act, funds are provided for the costs of teaching and student support for state medical assistance program personnel. Several programs administered by this service, through a federal-state relationship, provide support to individuals who meet eligibility requirements such as survivors and dependents under the Social Security Act provisions.

The Vocational Rehabilitation Service provides funds administered through the State Vocational Rehabilitation Service. The most common form of assistance is to individuals to enhance em-

ployability. Specific provisions include: (1) instructional costs and student stipends for both long-term and short-term training, (2) partial support of projects which show promise of substantial contributions to the solution of rehabilitation problems, and (3) partial payment of costs of instruction, alterations, and renovation necessary to serve eligible students.

The Adult Indian Vocational Training Act administered through the Bureau of Indian Affairs provides resources for eligible individuals to obtain training.

MDTA — U.S. Office of Education and Department of Labor

The Manpower Development and Training Act of 1962 and its amendments provide for several types of activities and programs. Most of these provisions are applicable to the health field. General provisions require that the President make a report to Congress each year on the nation's manpower. **The Annual Manpower Report of the President,** issued in March of each year provides a comprehensive summary and projections of the nation's manpower. Other sections of this Act provide support for research, occupational analyses, and surveys on either a contract or grant basis.

Several types of programs and services have been provided under the MDTA and later amendments and Acts. In many cases contracts for "institutional training," where at least a significant part of the training is in an organized classroom setting, are jointly administered by the federal-state department of labor and the federal-state vocational education agencies. Present and proposed legislation would continue these joint types of activities. Some difficulty in continuity of classes and projects has been encountered due to the funding on a class-by-class basis.

An individual trainee's eligibility for support must be determined and approved by the state employment service. There are no costs to such individuals selected for attendance in MDTA sponsored programs. Additionally, eligibile individuals may receive stipends and support for extra expenses incurred while attending occupational education programs either under the MDTA or in other programs. The educational institution may be reimbursed for the educational costs of the sponsored individuals. Generally, training programs must be one year or less in length.

U.S.-State Employment Services, U.S. Department of Labor

Under a federal-state cooperative plan, all areas of the nation are served by a local office of a state employment service. A state-level office administers a combination of services and programs. Maintenance of an inventory of job vacancies and unemployed workers is required. Cooperation between the employment services and vocational education is required for many types of activities under provisions of some federal legislation.

Other Special Training Programs

In recent years many specialized programs have been established to assist in meeting the needs of selected groups, most often the unemployed or disadvantaged. Several are under the jurisdiction of the Manpower Administration of the Department of Labor. Included in this category is the JOBS Program, Job Opportunities in the Business Sector.

The Office of Economic Opportunity has been established to provide services to eligible individuals and groups through funding directly to local agencies or through a federal-state-local relationship. The Neighborhood Youth Corps, Job Corps, VISTA (Volunteers In Service To America) and other employment and training programs are examples of activities that can provide opportunities for eligible individuals.

Educational facilities and programs may be included under the provisions of the Model Cities Programs of the Department of Housing and Urban Development.

APPENDIX B

AGENCIES AND ORGANIZATIONS

A number of organizations and agencies provide assistance and information helpful to health occupations education development, operation, and evaluation. They may also be of assistance in providing the names and addresses of additional resources.

GOVERNMENT

State

Board of Vocational Education (Generally a part of the State Department of Education)	Legal agency for receiving and administering all federal vocational funds; State Plan and guidelines for programs and expenditures. Approval of local plans, projects, and programs.
Supervision for Health Occupations	Consultant services, guidelines, requirements and approvals.
Teacher Education Services	Provides and supports teacher improvement activities.
Research Coordinating Unit	Sponsors, conducts and disseminates research and curriculum activities and information.
State Advisory Council for Vocational Education	Evaluates vocational education in the state and advises State Board of Vocational Education.
State Department of Health and Mental Health	Establishes and carries out health programs for protection of the public; acts as administrative agent or coordinator for many federally funded public health programs.
State Department of Labor	Administers state labor laws, including those for student-learners. Studies and reports employment and labor force needs.
State Employment Service	Administers selected state-federal programs, operates local offices throughout each state. May determine eligibility of individuals for attendance and support in special training programs.
State Vocational Rehabilitation Service	Acts as administrator for state-federal rehabilitation services; assists eligible individuals to obtain training and employment.

Federal

U.S. Atomic Energy Commission, Division of Technical Information Extension P.O. Box 62 Oak Ridge, TN	Bulletins describing careers in science and health as related to their activities.
U.S. Civil Service Commission 1900 East Street, N.W. Washington, D.C.	Classification agent for federal employment; describes and classifies occupations as related to federal employment.
U.S. Department of Health, Education and Welfare	
U.S. Office of Education Washington, D.C. 20202	Administrative unit within DHEW for activities concerned with all levels and aspects of education. Regional offices serve geographic areas.
Bureau of Adult and Vocational and Technical Education Division of Vocational and Technical Education	Administers education acts; serves leadership role in expanding, improving, and extending vocational education nationally and internationally to serve all who need and can benefit from vocational education.
Bureau of Higher Education	Administers funds and programs for college level education.
Division of Accreditation and Institutional Eligibility	Recognizes associations for program accreditation and eligibility for use of federal funds.

U.S. Public Health Service	Administrative unit within DHEW concerned with health and health related activities.
National Institutes of Health	Information and support for research and educational programs in all areas of health.
Division of Allied Health Manpower 9000 Rockville Pike Bethesda, MD 20014	Administers federal Acts concerned with allied health personnel; conducts studies; funds other studies, educational programs and reports.
National Mental Health Services	Coordinator of federal funds for mental health programs.
Public Inquiries Office Office of Information	Provides copies of free materials and information concerning available publications.
Regional Medical Program Services	Administrative office for the fifty-five Regional Medical Programs; responsible for funding, compiling reports, and coordinating research and development activities in the regional Offices.
Social and Rehabilitation Services	Administrative unit within DHEW
U.S. Vocational Rehabilitation Administration	Administers funds and programs serving the handicapped through a federal-state program relationship. Local offices may provide assistance for eligible individuals.
U.S. Department of Labor Washington, D.C. 20210	
Bureau of Labor Statistics Constitution and 14th St., NW	Provides studies and reports on the labor force; career bulletins and reports on occupational fields and by geographic area.
U.S. Employment Service	Administers funds and programs through a federal-state system to provide counseling, employment services, and training for eligible individuals. Local offices are located in all parts of the nation.

APPENDIX C

INFORMATION DISSEMINATION SOURCES

These Clearinghouses and Printing Offices make available documents, reports, and research studies applicable to health occupations education and health service.

THE ERIC SYSTEM

The Educational Resources Information Center is a clearinghouse which makes possible early identification and acquisition of documents and reports of interest to educators. It consists of a staff in Washington, D.C. which coordinates the activities of nineteen clearinghouses located at universities and/or with professional organizations across the country. Each of these clearinghouses is responsible for a particular educational area.

Research in Education is their monthly publication which provides one-page abstracts of recently completed research or research-related reports and current research projects in the field of education.

Subscription fee: $21.00 per year
1.75 per copy

Obtained from: Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Complete copies of documents and reports are available upon request. The price of standard-typed copies is dependent on the number of pages of the report. Microfiche (60 pages per fiche) costs $.30 per fiche. These are obtained from:

ERIC, Educational Resources Information Center
c/o National Cash Register Company
4936 Fairmont Avenue
Bethesda, Maryland 20014

Abstracts of Instructional Materials in Vocational and Technical Education and **Abstracts of Research and Related Materials in Vocational and Technical Education** are quarterly publications which provide information specific to vocational and technical education and are prepared by the clearinghouse at The Ohio State University.

Subscription fee: $9.00 per year

Obtained from: The Center for Vocational and Technical Education
The Ohio State University
1900 Kenny Road
Columbus, Ohio 43210

Requests for complete copies of reports can be made to the Center at The Ohio State University. Prices are the same as for those from the ERIC Center.

NTIS

The National Technical Information Service is similar to the ERIC system. It identifies, acquires, and circulates documents and reports related to science and technology. As new documents are added to the system, subscribers are notified through **FAST Announcement Service** circulars.

Requests for **FAST** and information regarding available documents should be directed to:

U.S. Department of Commerce
National Technical Information Service
Springfield, Virginia 22151

U.S. Government Printing Office

This agency of the government prints and circulates documents, bulletins and publications. A complete list of publications available to the public is available upon request. Nominal charges are made for publications.

Two catalogues of Federal assistance programs are maintained and are especially valuable references.

Catalog of HEW Assistance, an index to its programs, Bull. No. GPO: 1970 0-388-770 ($5.50)

Catalog of Federal Domestic Assistance, a government-wide index. Bull. No. GPO: 1970 0-378-328.

Inquiries should be directed to:

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

APPENDIX D

ANNOTATED REFERENCES

Several guides for use in vocational and technical education have been provided under contracts by the Department of Health, Education and Welfare, Office of Education. Each guide focuses on a particular aspect of vocational and technical education and are of value in relation to health occupations education. Requests for copies should be sent to USOE, Division of Vocational and Technical Education, Washington, D.C. 20202.

A Guide for Cooperative Education.

A Guide for the Development of Curriculum in Vocational and Technical Education.

A Guide for the Development, Implementation and Administration of Exemplary Programs and Projects in Vocational Education.

A Guide for the Development of Residential Vocational Education.

A Guide for the Development of Vocational Education Programs and Services.

A Guide for Post-Secondary Vocational and Technical Education.

Research Handbook for Vocational-Technical Education.

Vocational Education for Handicapped Persons; Handbook for Program Implementation.

The following are available from the association, publisher or office indicated.

American Association of Junior Colleges. **Emphasis: Occupational Education in the Two-Year College.** Washington, D.C.: The Association, 1966.

General review of the role of the community college in establishing and conducting occupational programs.

American Association of Junior Colleges and the National Health Council. **A Guide for Health Technology Program Planning.** Washington, D.C.: The Association, 1967.

Steps and procedures for developing health occupations programs with information concerning the roles of cooperating associations and educational institutions. References for additional resources.

American Association of Junior Colleges. **Extending Campus Resources.** Washington, D.C.: The Association, 1968.

Focuses on use of cooperative agreements with off-campus employers and agencies.

American Association of Junior Colleges. **Guide for Program Planning: Medical Laboratory Technician.** Washington, D.C.: The Association, 1969. ($1.50)

Outline for establishing and operating medical laboratory programs. Some information is applicable to other types of programs.

American Hospital Association. **Hospital-Junior College Survey.** Chicago: The Association, 1970.

Survey of hospitals providing clinical affiliations for community college health occupation programs.

American Medical Association. **Directory of Health Facility Planning Agencies.** Chicago: The Association, 1965.

American Medical Association. **Directory of Accredited Allied Medical Education Programs, 1967-70.** Chicago: The Association, 1969.

Directory of accredited allied health occupations programs throughout the nation for those fields approved by the AMA Council on Medical Education.

American Medical Association. **Horizons Unlimited.** Chicago: The Association, 1969.

Description of occupational opportunities in the health field. Useful in occupational exploration and guidance activities.

Evans, Rupert N., Garth L. Mangum and Otto Pragan. **Education for Employment: The Background and Potential of the 1968 Vocational Education Amendments.** Ann Arbor: The Institute of Labor and Industrial Relations, P.O. Box 1567, University of Michigan, 1969. ($2.50)

Philosophy and opportunity for comprehensive vocational education as recommended by the President's Advisory Council on Vocational Education and provided for by the Vocational Education Amendments of 1968.

Holloway, Lewis D. and Elizabeth E. Kerr. **Review and Synthesis of Research in Health Occupations Education, 1969.** Available from the Center for Vocational and Technical Education, The Ohio State University, and from the ERIC System.

Kerr, Elizabeth E. **Guidelines for an Educational Program to Prepare Pediatric Office Assistants.** Iowa City: Division of Health Affairs, Program in Health Occupations Education, The University of Iowa, 1969. (Mimeo)

Steps in establishing a specific health occupations education program with recommendations and criteria. Approach is appropriate to development of many other health occupations education programs.

Kinsinger, Robert E. (Ed) **Career Opportunities — Health Technicians.** Chicago: Ferguson Pub. Co., Six North Michigan Ave., 1970. ($11.95)

This book contains descriptions of 25 major career fields in the health area with requirements and opportunities reviewed for 150 specific occupations. Names and locations of schools are given for 25 specialties. A valuable resource for guidance and occupational information.

Kintgen, Jean. **Interpretation of Literature on Career Ladders and Lattices in Health Occupations Education.** 1970. Available from the Center for Vocational and Technical Education, The Ohio State University, and from the ERIC System.

National Advisory Commission on Health Manpower. **A Report, Volume I and II.** Washington, D.C.: U.S. Government Printing Office, 1969.

Reports on the Nation's health and manpower needs. Volume I (45¢) deals with the health professions and Volume II ($2.25) deals with the allied health occupations.

National Health Council. **Investigation of the Feasibility of Establishing Health Technology Demonstration Centers.** Final Report of USOE sponsored project, 1970. Available from the ERIC System.

Includes examples of innovative health occupations education programs and associations.

Rowe, Harold R. **A Health Career Development Program for the Rural High School.** Columbus: The Center for Vocational and Technical Education, The Ohio State University, 1970. Also available from the ERIC System.

Report of a study and suggested organization for establishing a health occupations education program at the secondary level.

Tomlinson, Robert M., Lois M. Langdon and Chester Rzonca. **National Conference for Health Occupations Education: Conference Proceedings.** Urbana: University of Illinois, 1970. Available from the ERIC System.

Position papers, reactions, summaries and recommendations dealing with the health occupations education field.

U.S. Department of Health, Education and Welfare. Office of Education. **General Report of the Advisory Council on Vocational Education — The Bridge Between Man and His Work.** Bulletin OE 80052, Washington, D.C.: U.S. Government Printing Office, 1968. ($2.25)

U.S. Department of Health, Education and Welfare. Office of Education. **Criteria for Technician Education: A Suggested Guide.** Washington, D.C.: U.S. Government Printing Office, 1969.

Defines and distinguishes technical level occupations and provides criteria for programs at this level. No. OE 80056. Price 45¢.

U.S. Department of Health, Education and Welfare. Public Health Service. **Education for the Allied Health Professions and Services,** Publication No. 1600, Washington, D.C.: U.S. Government Printing Office, 1968.

U.S. Department of Health, Education and Welfare. Public Health Service. **Health Resources Statistics,** Publication No. 1509, Washington, D.C.: U.S. Government Printing Office, 1968. ($2.50)

List of categories of occupations in the health field. Detailed descriptions and manpower information on thirty-five specific occupations.

U.S. Department of Health, Education and Welfare. Public Health Service. **Training the Auxiliary Health Worker.** Washington, D.C.: U.S. Government Printing Office, 1968. PHS Publication No. 1817. (30¢)

U.S. Department of Health, Education and Welfare. Public Health Service. **Continuing Education Activities in Selected Allied and Health Related Practitioner Organizations.** Washington, D.C.: U.S. Government Printing Office, 1969. GPO 874-782.

U.S. Department of Health, Education and Welfare. Public Health Service. **State Licensing of Health Occupations,** Publication No. 1758, Washington, D.C.: U.S. Printing Office, 1969.

Review of licensed occupations and requirements for licensure by states.

U.S. Department of Health, Education and Welfare. Public Health Service. **Health Manpower Source Book, Section 21, Allied Health Manpower, 1950-80.** Washington, D.C.: U.S. Government Printing Office, 1970. ($2.15)

Summary of health manpower needs and projections. Information on Federal legislation which may provide assistance for health occupations programs.

U.S. Department of Labor. Manpower Administration. **Health Careers Guidebook.** Washington, D.C.: U.S. Government Printing Office, 1965. ($1.75)

Detailed description of jobs with requirements and means for occupation entry. Designed for use in health occupations guidance activities. Being revised.

U.S. Department of Labor. Bureau of Labor Statistics. **Health Manpower, 1966-75: A Study of Requirements and Supply,** Report No. 323. Washington, D.C.: U.S. Government Printing Office, 1967.

U.S. Department of Labor. **Occupational Outlook Handbook,** Bulletin No. 1450. Washington, D.C.: U.S. Government Printing Office, 1967.

Descriptions of, means of preparation and employment opportunities in several hundred occupations including many health occupations. Annually updated. Separate sections on specific occupations are available.

U.S. Department of Labor. **Manpower Report of the President.** Washington, D.C.: U.S. Government Printing Office, 1970. ($2.25)

Annual report on national manpower and trends. Released in March of each year.

Ward, Charles F. **National Conference on Accreditation of Public Post-secondary Occupational Education.** Raleigh, N.C.: Center Occupational Education, North Carolina State University at Raleigh, 1970.

Highlights of a USOE sponsored conference. Additional monographs will be available from the center and through the ERIC system.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1971—822—163